154614

Class _____ *No.* _____

Presented by

In Exchange

Bdg. 1.65

Digitized by the Internet Archive
in 2013

http://archive.org/details/marymed61balt

MARYLAND
Medical Journal

Medicine and Surgery

The Medical Journal Company

BALTIMORE *Publishers* WASHINGTON

Volume Sixty-one
Number One

JANUARY, 1918

Annual Subscription
Two Dollars

In the Treatment of

RHEUMATIC and NEURALGIC ILLS

you will obtain substantial aid from the thorough use of

K-Y ANALGESIC

This non-greasy, water-soluble local anodyne will enable you to ease your patient's pain and discomfort, while your internal or systemic medication is combating the cause of his condition.

The advantages, moreover, of relieving the pain of a facial neuralgia, an inflamed joint, or aching lumbar muscles without recourse to coal tar derivatives cannot fail to appeal to medical men.

K-Y ANALGESIC is a safe and effective adjunct that will daily grow more useful to the practitioner as the many opportunities for its effective use are realized.

VAN HORN AND SAWTELL

NEW YORK CITY, U. S. A.
15 and 17 East 40th Street

and

LONDON, ENGLAND
31 and 33 High Holborn

WHEN A TONIC IS NEEDED

the best obtainable is called for—in its composition, in its quality and character, and above all, in its capacity to promote bodily vitality and strength. In

Gray's Glycerine Tonic Comp.

FORMULA DR. JOHN P. GRAY

the practitioner has at his command a restorative and reconstructive that justifies every confidence. Of the highest quality and constant uniformity—in spite of the drug market—and exceptional therapeutic efficiency, the use of "Grays" is a guarantee that the best possible results will be obtained in each and every case.

For over a quarter of a century "Grays" has been one of the most widely—and successfully—used remedies in atonic and debilitated conditions.

COMPOSITION

Glycerine
Sherry Wine
Gentian
Taraxacum
Phosphoric Acid
Carminatives

"Grays" is now supplied in two sizes—a 6 oz. prescription size, and the original 16 oz. package.

INDICATIONS

Auto-Intoxication
Atonic Indigestion
Anemia
Catarrhal Conditions
Malnutrition
Nervous Ailments
General Debility

THE PURDUE FREDERICK CO., 135 Christopher St., New York

Chevy Chase Sanatorium

WASHINGTON, D. C.

A HIGH-GRADE institution for the care and treatment of those suffering from Nervous and Ment Diseases, Alcohol and Drug Addicts and general enfeeblement.

Located in the choicest suburb of the National Capital, surroundings ideal, buildings new, heated by steam lighted by electricity, licensed by the District of Columbia, inspected and controlled by the Health Departm n of the City of Washington.

FOR TERMS, ADDRESS

DR. BENJAMIN RUSH LOGIE

Chevy Chase Sanatorium WASHINGTON, D. C

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery

Vol. LXI, No. 1 BALTIMORE, JANUARY, 1918 Whole No. 1196

MEDICAL PREPAREDNESS IN THE GREAT DRIVE FOR DEMOCRACY.*†

By Joseph Colt Bloodgood,

Baltimore.

Chairman Committee on Preparedness, Southern Medical Association.

The speakers who have preceded me are veterans of the regular corps of the British, French and United States armies. The "R" in M. R. C. really stands for "raw recruit," and this audience will have the enjoyable opportunity to listen to a combat of words between veterans and a raw recruit.

The medical profession of this country is urged by this raw recruit to listen to the messages from France. Colonel Dercle, Colonel Goodwin, Sir Berkley Moynihan, Major Crile have spoken.

The cosmic message from those facing death is daily published. The Russian people have given 6,000,000 of their soldiers, because of inferior equipment with modern guns, and prevented France from being crushed while Great Britain and her colonies gathered her strength. Italy has helped by pushing the Austrians until Russia's internal conflict released Germans for the blow at Italy.

France and Great Britain are more than holding on the Western front. They are driving Germany, protecting us until we have joined with all our forces.

You have heard Colonel Dercle's dramatic remark that in the beginning of the war France intimated to Germany to stop, and they stopped. You heard Colonel Goodwin and Sir Berkley describe how *the thin line held* in the Battle of the Marne.

These nations have fought our battles for three years and more. Our time has come. The raw recruit who speaks simply transmits messages from our Allies and from comrades in our own army in Europe.

The entire nation is called now. The test of democracy is at hand.

Never before has the medical profession been given such an opportunity to set the high example of patriotism and service.

* The first paper on this subject was published in the *Southern Medical Journal* for September, 1917, vol. x, p. —.

† Delivered before the Southern Medical Association at its Public Session, Wednesday, November 14, 1917, at Memphis, Tenn.

SEP 23 1940
154614

The time has passed for any individual member of the medical profession of this country to decide for himself as to whether his services are required, or where.

All must volunteer.

We can and must draft ourselves.

MEDICAL PREPAREDNESS.

At home it should be chiefly preventive medicine and sanitation. When our army is in France, or elsewhere, the great medical problem is surgery.

At home, Federal, State, City and County Health Departments and the Medical Departments of the Industries must combine and co-ordinate their activities to protect the entire population and all the industrial workers from disease, and so release more physicians for the army.

If these health departments are given the means and the authority, the number of cases of disease will be so greatly reduced that many physicians and surgeons would have little or nothing to do, and if there were no war demanding their services, they would be forced into other occupations anyway.

In the army, sanitation and preventive medicine is largely in control of everything, even venereal diseases and alcohol can be and are controlled in those places where public sentiment and civic authority permit the enforcement of existing regulations for the zones outside the camps, for example at Camp Greenleaf, Fort Oglethorpe, Georgia.

At the front, the great as yet unsolved problems in preventive medicine have to do with the extermination of body vermin and rats in the trenches.

The great medical problem in this war is wound treatment.

Victory cannot be won without wounds. These wounds must be healed. When a soldier falls, his life, his present and future comfort, happiness and usefulness, are in the hands of the medical and nursing professions.

The wounded soldier must be so treated that he either returns to the front fit to fight, or home fit to work.

Peace surgery must give way to war surgery.

If anyone must suffer, it must not be the men fighting our battles and preserving the life of the nation.

Soldiers in immense numbers are required to win this war, and we must have specially trained physicians, surgeons and nurses to care for them.

Should the medical profession volunteer *en-masse,* and so draft themselves, it will be enforcing an example on the industrial workers who are asked to forge the guns and build the ships.

Ships are essential for the transportation of the Republic's great army and all the things that must accompany this army. These men must not be allowed to land in France without guns of sufficient caliber to protect them, and without numberless eyes in the air to guide the army and its guns.

Ruthless war is a threatening world disease. When ruthless

war wins, liberty and all that liverty-loving people cherish for themselves and posterity, and for the world, is replaced by slavery.

Centuries of effort to give liberty to the world are lost.

Oppressed peoples must again begin the long struggle.

Never before has one group of peoples faced such a catastrophy of total destruction by another group.

Which type of people shall prevail? The result is practically in the hands of liberty-loving free America.

MEDICO-MILITARY PREPAREDNESS.

In the standardization of hospitals about to be begun in the United States the question to be asked and solved is: What is best for the patient? This problem cannot be solved unless we have a sufficient record in the hospitals and a follow-up system.

In war efficiency the question is: What is best for the soldier?

In the special training of a civil physician or surgeon for military duty he first must have a degree from a recognized medical school. Then he must pass the physical tests. Now he is a candidate for commission.

Every officer commissioned in the Medical Reserve Corps should start with this physical fitness.

The first requirement, however, is a spirit generated by belief in the cause of the war and the urgent necessity of the hour. The spirit leads to volunteering of service.

The commissioned candidate is now ready for the special training in his military and medico-military duty.

At the onset there are two large groups or classes:

One group is trained for duty in the zone of advance from a regimental medical officer to the evacuation hospital.

In this group the age should be 45 years and less. The physical requirements are greatest.

The second group are trained for the evacuation, base and home hospitals. Here the age of many may be between 45 and 55. The physical requirements are less.

In the zone of advance purely military and medico-military requirements are greatest with the regimental officer, and least in the evacuation hospital, while purely clinical requirements are least on the firing line, and grow greater and should be of the highest degree in the evacuation hospital.

Each civil physician or surgeon who enters the Medical Reserve Corps starts with a varying degree of purely clinical knowledge and experience. Few, if any, have had military training.

Every candidate, if possible, should have a certain amount of special teaching in the military and medico-military duties of the army. Those finally selected for the zone of advance receive further training in their special military, medico-military and purely clinical requirements. Those selected for duty in the evacuation hospitals and the zone of the interior to the home hospitals, should have further intensive instruction in purely clinical

work, which this war has demonstrated to be different, in sanitation, medicine and surgery from the requirements in practice at home in time of peace.

Much of this trianing in military, medico-military and clinical work in sanitation, medicine and surgery should be done in this country in the Officers' Training camps, in the great cantonments and in the other training camps, and in the special post-graduate schools which have been established.

The Officers' Training camps have been running to their full capacity at Forts Riley, Benjamin Harrison and Oglethorpe. The training camp, Greenleaf, at Fort Oglethorpe, will probably be greatly enlarged.

Special post-graduate courses have been established in orthopedic surgery, radiology, neurological surgery, oral plastic surgery, fractures, the Carrel-Dakin method of treatment of infected wounds, the treatment with chloramine-T; a school of hygiene and sanitation has been established at Fort Oglethorpe; special laboratory courses are being established.

These special courses in purely clinical work in the different specialties have not only been organized in the medical departments of great universities, but in connection with the base hospitals in all cantonments. The surgeon-generals of the army, navy and public health service, all recognize this necessity. No member of the Medical Reserve Corps should for a moment conclude—no matter how high his position in the surgical world—that he is ready to meet the purely clinical problems of military medicine and surgery without some intensive instruction in the special problems.

Military and medico-military training begins in a Medical Officers' Training camp. Every candidate should at least apply for this training. The training is continued in other camps. Some officers unfortunately must get it there without the preliminary course in the Medical Officers' Training camps.

THE PROBLEMS OF WAR SURGERY AND MEDICINE.

From the firing line to the home hospital there are at least four important stages, each with its special problems.

In the first stage—on the firing line—the wounded are collected, and receive a primary dressing and a primary fixation. The problems here are of efficient, rapid fixation to allow transportation on a stretcher. This is a combined military and clinical problem.

The second stage is one of transportation, and the problem is chiefly military.

The third stage is the evacuation hospital, and the problem is wound treatment.

The fourth stage is the base and the home hospital, and the problem is chiefly reconstruction and re-education.

On the firing line there may not be much to be done beyond the primary dressing and the primary fixation, but what little should be done, must be done by the regimental surgeon, and

medical corps is the foundation of a surgical treatment, which ultimately makes the man return to the front fit to fight, or return home fit to work.

There is no agreement as to the value of an antiseptic in the primary dressing. It may be of value in wounds of lesser degree, but in the huge shell wounds at the present time it seems useless and a waste of precious minutes to attempt any disinfection. The wound should be simply covered with gauze.

The most important and difficult procedure is the primary fixation in splints or on a stretcher for transportation. In view of the number of the wounded this primary fixation must not only be accomplished with great efficiency, but rapidly.

The Allen method of fixation, with extension on the army stretcher without splints, appeals to me as the best. This will be published shortly in the *Military Surgeon*.

However, we should not cease to dream, or stop in our search for a method of disinfecting the huge shell wound at the primary dressing. If we could find an antiseptic or a serum which would prolong the stage of contamination and put off the stage of infection, it would be an epoch-making discovery.

All agree that the best results are obtained when a wounded soldier is brought in contact with a well-trained surgical team, in a fully equipped hospital, in the best condition and in the shortest space of time. I am emphasizing the *best condition* and the *shortest space of time*.

The best condition is in the control of the regimental surgeon and his enlisted medical-corps men. It depends upon the rapid collection of the wounded, and the rapid and efficient primary fixation in splints or on the stretcher.

The shortest space of time is in the hands of the ambulance company. This transportation should be made with the least number of transfers, and, if possible, with no re-dressing, no change of the splints, and no change from the stretcher. During transportation, shock, if possible, should be prevented or treated.

The majority of wounded should be transported directly from the regimental aid post to the evacuation hospital. The problem of selecting the lesser wounded who can be treated at dressing stations between the firing line and evacuation hospital is not a difficult one.

All agree that the majority of wounded soldiers in this war should be operated upon in a well-equipped hospital under an aesthesia within eight hours, whenever possible. This hospital, as a rule, can be placed from six to eight miles in the rear.

In trench warfare, when the firing line is more or less stationary, this hospital six or eight miles to the rear becomes a stationary hospital. It may then be called a base or evacuation hospital. As a rule, it is the latter. However, when the firing line advances rapidly, these huge stationary hospitals cannot be moved with the same rapidity, and for this reason we must be prepared with a mobile hospital which can keep within six or

eight miles in the rear, and which is equipped with all that is necessary for this primary operation.

In this war, the field hospital which is mobile will have little to do except in the care of minor wounds, if the firing line is stationary, but if the firing line advances rapidly, it will have much to do, and its equipment will have to be changed. Our present evacuation hospital was not designed for this primary operation, nor for the after-care of a large number of patients.

If the firing line is stationary this evacuation hospital will have to be enlarged to meet the demands, and the firing line advances, the evacuation hospital should be ready with its automobiles to become on 24 hours' notice a large, mobile operating unit.

All authorities agree that in the great majority of cases, when the wounded soldiers reach the evacuation hospital in eight hours or less, and the character of the wound allows, the wound should be excised, not only to remove the blood clot and foreign body, but to cut out with the knife, as you would in malignant disease, all devitalized tissue. Then the wound may be closed with a large probability of healing.

This requirement places huge responsibilities and demands upon the regimental medical corps and upon the ambulance transportation service—largely a military problem. The excision of such a wound places upon the surgical team in the evacuation hospital a new problem. The number of wounded may be great, the character of each wound different. Not only must there be surgical technique and skill, but surgical judgement. To facilitate the complete excision of such an irregular wound, some British surgeons stain the surface with brilliam green; others char with the cautery. All agree, however, that no surgeon should depend upon an antiseptic alone. The devitalized tissue must be excised.

When the wounded soldier fails to reach the evacuation hospital in time, and the wound has passed from the stage of contamination to the stage of infection, the wound cannot be closed. There also seems to be some difference of opinion as to whether the wound in the stage of infection should be excised. The majority favor thorough cleansing and removal of all foreign bodies and blood clots. In other cases the wounded soldier arrives within the time and the wound in the stage of contamination, but on account of its extent and character the devitalized tissue cannot all be excised. These wounds must be left open.

However, as to the treatment of the open wound there is a wide disagreement.

Two methods of treatment of the open wound are being intensely studied and advocated in this country. One, the Carrel-Dakin; the other, the dichloramine-T.

The majority of the opponents of the Carrel method do not question the scientific precision of its technique, nor the accuracy and brilliancy of its results. They claim, however, that this technique can only be followed successfully in a stationary hospital, with a large personnel, and that it is difficult to teach large

numbers of surgeons the details of this method. They claim also that it is more expensive, not only in personnel, but in material. They call attention to the difficulty not only of placing the tubes properly, but keeping them patent, and the difficulty of preparing and keeping the hypochlorite solution at effective strength.

In Philadelphia, at the Pennsylvania and university hospitals, the treatment of open wounds by the chloramine-T method has been splendidly worked out in dispensary and ward practice. The motion-picture lecture which is being delivered in this country by Captain Furness and Lieutenant Lee is a marvelously pictured story.

The men in this group are playing the game fairly, and admit that it was the Carrel-Dakin method that led to this.

The technique which they have developed in the excision of the wound and in the re-dressing of the wound ranks with Carrel's. The only difference is in the application of the antiseptic. The open wound before and after its excision, and at the daily re-dressings is sprayed and sponged with the dichloramine-T, the active principle of which is chlorine in eucalyptus oil. It differs from the Carrel method in the elimination of all drainage tubes and the 24-hourly application of the antiseptic instead of the two-hourly.

The test of these treatments will not be in the lesser wounds of the type usually seen in industrial practice. As a matter of fact, the results without dichloramine-T and without the Carrel-Dakin have been uniformly good in these lesser wounds of industrial practice, when surgical skill, technique and judgment were good. But the shell wounds of this war are of a different type, and Carrel has made a great contribution to their treatment. It is true that we have reports from France that dichloramine-T is accomplishing excellent results.

The lesson, however, which we must learn, and recently brought to us by Sir Moynihan and Major Crile, is that the surgeon must not depend solely on any yet known antiseptic, but must be convinced that their results will depend upon aseptic technique, rapid skillful technique, surgical judgment, resourcefulness, constant attention to detail at the operation, eternal vigilance in the after-treatment. The majority of surgeons, however, feel that some antiseptic is an essential part of the wound treatment at the primary operation and in the subsequent dressings of the open wound.

In all surgical diseases the interval of time between the onset of the local condition and its operative treatment is the first essential factor in the cure. In this war many wounded soldiers will not reach the evacuation hospital within eight hours, with wounds still in the stage of contamination only, and many of those who do will have wounds that cannot be completely excised and closed. Therefore, there is required a treatment for the open wound, and as far as my personal observation goes, I do not as yet know of a substitute for the Carrel-Dakin method.

It is my personal opinion that no surgeon in this country, no

matter what his position or standing, has the right to condemn the Carrel-Dakin method unless he has, through painstaking investigation and experience, devised a substitute. Such men as these can fairly be compared with those in this country who in one way or another obstruct our preparation for war, and have no substitute to offer which will bring about a peace with victory.

The work of the group in Philadelphia with dicloramine-T should be welcomed and encouraged. The surgeon-general has recognized it, as he has Carrel's method, by sending Medical Reserve Corps officers to both places for special instruction. Other clinics in this country should follow the example of the Philadelphia group, and immediately start in wards and dispensaries an investigation, either comparative of these two methods or of a new one.

The surgical departments of the great industries should follow the example of Sherman of Pittsburgh and Nolan of Birmingham. The industries with the large number of accidental wounds are in the best position to start at once a thorough and scientific research into the problems of wound treatment.

The fourth zone or stage begins at the evacuation hospital and extends to the home hospital. When the wounded soldier cannot be returned to the firing line fit to fight, he should be returned home fit to work. The great problem here is one of reconstruction and re-education. It is largely an orthopedic problem. But orthopedic principles should be known and followed by the regimental surgeon in his primary fixation in splints or on the stretcher. Throughout the treatment the alignment of the broken bones, the proper position of the injured extremity should be constantly maintained. From the beginning muscle, tendon, joint and nerve function should be maintained and restored as rapidly as possible. Reconstruction can be made a much less difficult problem, if surgery is good from the onset. The larger problems are orthopedic and wound treatment. Undoubtedly this war will show a tremendous change for improvement when experienced and well-trained specialists have charge of the head, chest and abdominal wounds at the primary operation.

All agree that after the primary operation there must be a period of rest in bed before there is a second transportation.

In military medicine and surgery one group of medical men will have chiefly military and administrative functions; another group of specialists and assistants will be chiefly occupied with purely clinical work; a third group, especially in the zone of advance, will have combined military and clinical duties. All must have a certain amount of general training in the military side; all need some general training in the clinical aspects; others are further and specially trained for the more difficult duties of military administration and supervision, and for the greater demands of clinical responsibility in surgery, sanitation and medicine. There must be overlapping, and there will be failure if there is not coordination, teamwork and *esprit de corps*. The medical profession of this country must realize its responsibilities. The winning

of the war depends upon its combined and co-ordinated action as much as upon any other department of the army.

Now is the time to volunteer, to find out whether you are physically fit, whether you have the requirements, and whether your services are needed most at home or with the army. All who volunteer their services, whether accepted and commissioned for duty or not, should receive some *insignia of honor.*

GOUT, RHEUMATISM AND ARTHRITIS DEFORMANS.

By A. B. Conklin, M.D.

A difficulty which at the very beginning confronts him who essays to offer anything upon the subject of arthritis is the great diversity of individual opinion which prevails as to the meaning and application of the words gouty, rheumatic and rheumatoid. That the three conditions comprised by the caption of this article are common joint lesions, no one may deny, but there is at the present time much contention as to their inter-relationship and the use of the words gout, rheumatism and arthritis deformans as interchangeable terms. Nor has our knowledge of the subject been clarified by the substitution of such terms as gouty rheumatism, rheumatic gout, rheumatoid arthritis, gouty arthritis, gouty and rheumatic diathesis; latent, retrocedent, irregular or visceral gout, and as many more terms coined to convey the conception of the individual writer. As is usual, the great multiplicity of terms shows more clearly our ignorance of the subject than anything else.

However inadequate these terms may seem in the light of our present-day pathology, there is little warrant for making them synonymous terms applicable alike to joint lesions. Gout certainly is not rheumatism, nor, be it understood, is either of these conditions arthritis deformans, though a measure of deformity may follow. Pathologically they are three separate and distinct conditions, whatever may be said for them etiologically.

Gout, rheumatism and arthritis deformans are concise terms that have a definite application for years to conditions, measurably well understood by the clinician at least, and it may well be questioned if the substitution of a new nomenclature at this late day, even though reflecting a more scientific knowledge of the subject, would not still further confuse the profession and do harm to the cause. The trouble is not so much that we have not proper terms to express the various joint lesions, as the fact of our slovenly use of them. Much confusion, I am persuaded, has resulted from the use of the adjectives, gouty and rheumatic, as applied not only to atypical joint symptoms, but as well to a diathesis which may present no joint symptoms whatever, and is much better expressed by the word lithemia. What is needed quite as much as a re-

study of joint lesions is a readjustment of our use of the English language. Let our words and terms have a distinct meaning, and then employ them only for their legitimate use, and our differences of opinion will be found to be more apparent than real, and a material gain will have been made in solving the problem of gout, rheumatism and arthritis deformans.

It is not my thought to add anything new to what is already known of arthritic conditions, but to place an interpretation upon our already voluminous data that may possibly harmonize all the facts with a single theory and make clear the relationship of gout to rheumatism and the deforming arthrites. Whatever may be said of the etiology of joint lesions, I believe the clinical aspect justifies their classification into the distinct groups we are considering, notwithstanding it is confessedly difficult in many cases to say, with confidence, whether we have to deal with a case of gout, rheumatism, or a deforming arthritic in its inception. Nor is this parallelism less real than apparent. Many cases indeed do not admit of classification after the plan of differentiation to be given. So alike is the clinical picture of gout, rheumatism and arthritis deformans that it must be confessed that they possess a something in common other than their common predilection for joint tissue. Indeed, they possess more in common than of difference, and it is no unwarranted position that defines them as simply so many different modes of termination of a single, basic condition, its course of development being shaped by such modifying factors as heredity, age, sex, occupation, environment and intercurrent disease.

The greatest distinction that can be made between gout, rheumatism and arthritis deformans is no more than occurs between the recognized phases of several well-known diseases. Brow ague and quotidian intermittent fever possess but the single symptom of periodicity in common, and yet are of common origin. Pulmonary phthisis, white swelling, scrofulous abscess, tabes mesenterica and tubercular meningitis are infinitely more unlike in their symptomatology than are the arthritic conditions we are considering, and yet their kindred relationship is well known. In no respect is gout so unlike rheumatism as it is apparently unlike chorea, eczema, asthma, tonsillitis or migraine, and yet we are cognizant of a kinship between gout and these various conditions —I will not say diseases. It would be strange indeed if the great similarity in symptoms between gout, rheumatism and arthritis deformans had not ere this suggested a possible community of causation.

While willing to accept whatever proof to the contrary may be offered, and standing willing to change my views should future research make it necessary, I shall at this time take the position that gout, rheumatism and arthritis deformans are kindred conditions, in that they spring from a common cause, and are different conditions only as one group of symptoms may differ from another, and modifying factors lend their influence to the development of distinct types and determine ultimate ends. The com-

mon, cardinal, initial, predisposing causative factor of this triune of arthrites I believe to be the uric acid diathesis, using the term in its broadest sense to cover not only uric acid, but every form of nitrogenous waste product possessed of toxic properties—a *nitrogenemia* and its effects upon the joints may well be expressed by the term *toxic arthritis*.

This theory of the types of arthritis we are considering is by no means new, having been held for many years, although it is opposed latterly by the theory of the nervous origin of gout and the germ theory of rheumatism. The nervous element in gout, and the other toxic arthrites as well, should not be ignored, but, I believe, a more logical interpretation of it is to view it as a concommitant result, or as an intermediate pathological departure in the chain of results leading up to the arthritis. So also much data is accumulating bearing upon the occurrence of rheumatism, or a deforming arthritis, following an attack of some one of the so-called infectious diseases, as pneumonia, la grippe, tonsillitis, etc. That an infectious arthritis may occur, I wish to concede; so may it follow traumatism, but neither proves that an infectious or a traumatic arthritis is rheumatism. A tuberculous joint is an infectious arthritis, but no one would argue that it is rheumatism. A gonorrheal arthritis is an infectious arthritis, but not rheumatism at all, though erroneously so called.

In seeking to make the germ the connecting link between an infectious disease and a subsequent rheumatism, I fear due account has not been taken of the influence of the infectious disease, especially when marked by a rise of temperature, in disturbing metabolism and augmenting nitrogenous waste. The theory that would make rheumatism, or arthritis deformans, an infectious arthritis seems an especially weak one, in view of the fact that no microorganism has yet been discovered that is uniformly present in these cases.

It is now more than a century since Scheele, followed twenty-one years later by Wallaston, showed that the tophi of gout are composed of urates, and more than half a century since Garrod announced to the world that the arthritic deposit is not the whole of gout, but that the blood of gouty patients as well contains urate of soda, thus affirming the constitutional origin of the disease and proving its association with disturbance of proteid metabolism. While it has since been shown that the urates are normally present in the human blood, it is also as well known that when this form of waste is not normally eliminated a veritable toxemia ensues, which may or may not induce an arthritis, but which does find expression in an extensive and varied symptomatology, entirely separate and distinct from an arthritis, and may occur not once, but repeatedly and continuously, in those who never have suffered an arthritic attack. This has led to the use of such modifying terms as gouty, rheumatic, rheumatoid, latent and irregular gout, and so on, to express these non-articular phases of toxemia, and this jugglery of words, in turn, is respon-

sible for much of the confusion prevailing as to what constitutes true gout or uncomplicated rheumatism.

Before proceeding farther let us define the application of some of the words we are using, to the end that we not only may get a more comprehensive view of the subject, but that we may the more intelligently express ourselves. First, the term uric acid diathesis is an all-comprehensive term denoting an accumulation in the system of a pathological amount of nitrogenous waste products. Lithemia denotes the presence of these excrementitious products in the *blood,* with the resulting disturbance to the circulation and nervous system, in contradistinction to arthritis, which includes gout, rheumatism and arthritis deformans, and shows the result of the toxic factor or factors upon the *joints.*

There is much speculation as to whether it be uric acid or other nitrogenous waste products that induces the diathetic state, called the uric acid diathesis, nor will the limits of this paper permit of our going into its physiological chemistry, but it is, in a measure, immaterial to our purpose at this time so long as the diathesis is recognized, and I shall pass on to a cursory review of its symptoms, by which we recognize it and which are now fairly well understood. It may be stated at the outset that the condition lithemia profoundly impresses the nervous system, and especially the sympathetic, in its vaso-motor centers, as shown by the impairment of the general circulation and the development of the various vaso-motor neuroses. The arterioles throughout the body are contracted, as shown by the pale, cool, shrunken, pinched anemic-looking skin, rendering capillary circulation especially poor, and as an inevitable result nutrition is impaired, as shown by the various trophic changes which ensue.

These phenomena occurring in connection with the functional neuroses no longer challenge explanation, as the lithemic origin of this class of diseases is now too well known to admit of question, and the effect of this diathesis upon the circulation is too plain to be misinterpreted. It may well be asked what good reason can be shown for placing any other interpretation upon these same phenomena when occurring in connection with gout, rheumatism or arthritis deformans, which are but the arthritic manifestations of the same cause. If nitrogen toxemia be responsible for their occurrence in a syndrome of symptoms, which, from the preponderance of nervous phenomena, we denominate a neurosis, why hypothecate a less tangible theory to explain their occurrence in conjunction with a preponderance of arthritic symptoms due to the same cause as induced the neuroses?

This brings us to the theory of the nervous origin of gout and rheumatism, and it seems to me a mistaken conception of the facts to ascribe the arthritis to nervous origin, because, forsooth, certain nervous and trophic symptoms are common accompaniments of the inflammatory state of the joint. Is there any better reason for assigning a gouty or rheumatic arthritis to the disturbance of the nervous system than for reversing such logic and making the joint lesions the cause of the nervous disturbance? I think not,

and prefer to believe that each should be interpreted as co-existing expressions of a common cause, and that cause the uric acid diathesis. It is a noteworthy fact that such nervous and trophic phenomena as are relied upon to substantiate the theory of the nervous origin of gout and arthritis deformans are not uniformly present prior to the arthritis, but quite as often follow it. This is what might be expected under the uric acid theory. It is the modifying factors which determine the type of results which follow upon uric acid toxemia and fix the order of their development. As Royal Whitman of New York has well said, "Even in the ordinary forms of rheumatoid arthritis in older subjects the symptoms ascribed to disease of the peripheral nerves, such as atrophy, change of nutrition, disordered sensation and the like, accompany rather than precede the joint manifestations, and they differ in no particular from the symptoms caused by joint disease due to local infaction," thus arguing that they are a result and not a cause of the arthritis. The trophic changes above mentioned constitute a much more prominent feature of arthritis deformans than of gout or rheumatism, and, I am willing to concede, may antedate and in a manner sustain a causative relation to other arthritic conditions which follow; however, this does not place arthritis deformans outside the pale of uric-acid diseases.

What might seem at first an easy task to define the difference between gout, rheumatism and arthritis deformans becomes, with the attempt, a matter of some difficulty in all but the very typical cases. if we are to make a particularly good showing. The same hereditary factor may be traced in each, a gouty ancestor transmitting either rheumatism or deforming arthritis. The premonitory and co-existing ultra-articular symptoms are practically the same for them all, though there is less nephritis, arteriosclerois and endocarditis with deforming arthritis than with the other two. Rheumatism is more often met in young adults, while gout and deforming arthritis are more common in later years. More males than females have rheumatism, though this is not true prior to the age of twenty. Exposure of the male sex after adult age to cold and changes of weather predisposes them to much rheumatism, a fact that the germ theory does not explain. Gout is more common among men, as also is the monarticular form of deforming arthritis. Heberden's nodes and fusiform arthritis are more often met in women. Gout is an affection of the smaller joints, rheumatism of the larger, while all the joints may be affected by arthritis deformans in some of its forms. The inflammation in gout runs high, is less in rheumatism and least in deforming arthritis. Tophi are common to gout, do not occur in arthritis deformans, save in Heberden's type, and are not present in rheumatism. The deformity with the joints from gout is simple enlargement, in rheumatism is more stiffness than deformity, while in arthritis deformans distortions are at their maximum. Cardiac and vascular complications are of minor importance in arthritis deformans, but often become grave accompaniments of gout and rheumatism; arterio-sclerosis and cardiac hypthtrophy

being most common to gout, while endocarditis and valvular injury are most common in rheumatism, especially with children, where the injury to the heart is often out of all proprtion to the joint symptoms. Nephritis is most common in connection with gout, is at times seen along with rheumatism, but seldom is found complicating arthritis deformans. Rheumatic cases present an acid, sour-smelling sweat not found on patients suffering gout or a deforming arthritis. Gout and rheumatism are pre-eminently acute conditions, though they may, through repeated attacks, take on a continuous form, but deforming arthritis is from its inception a condition of slow development and continuous for years.

Such are the characteristic symptoms by which typical cases may be differentiated, but what shall be said of that greater number of cases in which there is such a blending of symptoms that neither single form of arthritis may be affirmed or denied? An attack of gout in the big toe joint, in a uric acid subject, a high liver and hard drinker, with sedentary habits and a history of previous attacks is indeed easy of diagnosis, as is usually an attack of acute inflammatory rheumatism. A gradually developing, fusiform arthritis, involving the smaller joints, or a monarthritis of the hip joint, in an old man, or a spondylitis, is usually not confounded with either rheumatism or gout, and Heberden's nodes make their own diagnosis, but even the most astute observers are wholly unable to classify very many of these cases of arthritis, occurring in the uric acid subjects, either as gout, rheumatism or deforming arthritis. The term "uratic arthritis" expresses the condition, and time often shapes their development along typical lines.

Unfortunately, neither urinalysis, blood count nor bacteriological findings aid us in differentiating these several conditions. There is usually a scanty elimination of urates preceding the attack of arthritis, both in gout and rheumatism, and an increase as the attack subsides. In arthritis deformans the elimination of urates varies, much as it does in health, and furnishes little aid to a diagnosis.

Much stress is laid by most writers upon the anæmia that is so apparent in cases of rheumatism. This, I am persuaded, is more apparent than real. That there is peripheral ischæmia I admit, and a well-night constant result of the disturbance to the circulation, as above pointed out, is a dirty pallor of the skin.

Apropos may be cited the findings of William G. Erving of Boston, reported in Am. Med. for Sept., 1903, who had a blood count made in 40 selected cases of arthritis deformans or osteoarthritis, conditions, he says, in which "Numerous writers refer to anæmia as characteristic," . . . "but their conclusions rest for the most part upon the general appearance of the facies, etc., rather than upon any absolute determination of the hemic condition." After giving figures for red blood corpuscles, leucocytes and percentage of hemoglobin, he concludes thus, "A perusal of these figures will show in both groups a red blood-corpuscle count ranging slightly above normal, while the hemo-

globin percentage is close to the 100 mark. That this should occur not only in robust healthy men with acute osteoarthritic symptoms of but a few weeks standing, but also in the pale, sallow, listless and poorly nourished sufferers from a more or less general rheumatoid arthritic involvement is unexpected. The slight leucocytosis noted in most of the cases seems to bear no relation to the severity of the symptoms or to the duration of the disease." "No normal elements such as * * * or other signs of hemic degeneration, were found, and to all appearances, in the acute stages of the disease, the formed elements of the blood are practically unaffected." There is peripheral ischemia, but not blood impoverishment.

Thos. McCrae, reporting on 110 cases of arthritis deformans occurring in Prof. Osler's clinic, at Johns Hopkins Hospital, says, "The average percentage of hemoglobin in 33 cases was 70.6 and the red cells in 29 cases, 4,468,000. These figures seem rather high when one remembers the very frequent pale, anæmic look of these patients; but the pallor is often more striking than the actual anæmia." No one, so far as I am aware, has yet offered any explanation for this pallor which the blood count shows is not due to anæmia. It is peripheral asphyxia. It is also worthy of note that the cultural results secured from the bacteriological findings in this large series of cases were entirely negative.

Behold the jargon of the bacteriologists in reporting upon the micro-organisms of rheumatism. In 1897 Achalme found an anaërobic bacillus in the heart's blood of a patient, dead from acute rheumatism, which he considered characteristic, but later discredited his own find. In 1899 Wasserman found micrococci in the blood of a post-rheumatic chorea case, that in the tissues were diplicocci, but in artificial media produced chains. This germ, he believed was the cause of rheumatism, thus making chorea synonymous with rheumatism, and he identified the germ by the fact that it grew best in alkaline media. A year later Payne and Poynton isolated a diplococcus from several cases, which they differeniated by the fact that it grew best in acid media, nor is mention made of its cultures becoming streptococci, as with Wasserman's germs, yet they profess to believe it is identical with his and the cause of rheumatism. The fact that one grows best in acid, the other in alkaline media, seems not to influence their conclusions. Meyers describes a similar organism, taken from the tonsils of rheumatic patients, which he, too, claims is the germ that causes rheumatism, yet cultures from the blood and joints gave negative results. Meyers' observations teach nothing, as it is well known that streptococci may be isolated from the throats of persons not suffering from rheumatism, and, in fact, from those in perfect health.

Singer, and a few others, take the extreme view that rheumatism is a modified pyemia and may be induced by any of the pyogeic cocci, and in 30 cases out of 100 examined found both the streptococcus pyogenes and staphylococcus pyogenes aureus, and points out that either of these germs, recovered from the

throats of scarlet-fever patients, when injected into the blood induces joint lesions. Admitting all this does not mean rheumatism. The joint lesions following the injection of pyogenic germs would logically be a pyemic arthritis instead, and though showing some of the gross appearances of a rheumatic arthritis, would be no warrant for concluding that rheumatism is a modified pyæmia: As logically might it be asserted that because tubercle bacilli find lodgment in a joint and set up an arthritis, that rheumatism is, by analogy, a modified tuberculosis. I cordially admit that pyogenic processes at times induce an arthritis, but it is strictly pyemic and not rheumatic. Beaton and Walker have found in the heart's blood, after death from acute rheumatism, chorea and endocarditis, and in the blood and urine of patients living, a diplococcus similar to that described by Wasserman, which when injected induces arthritis, fever, wasting and endocarditis, which they believe is the real cause of rheumatism, and which they have given the name *"micrococcus rheumaticus."*

Are we warranted in drawing any conclusions from such an array of conflicting testimony? It is not disputed that pyogenic germs, or even a diplococcus, may be found in the various tissues of rheumatic subjects, but this does not prove them the cause, instead of a result of the arthritis, for it is well known that they may be deposited upon any injured area. Furthermore, it is a fact, that in a majority of cases of rheumatism examined no organism can be found. What shall be said of a theory that leaves a majority of cases unaccounted? As militating against the theory of rheumatism being a modified pyemia, it is worthy of note that Poynton and Shaw, in 25 fatal cases of rheumatic fever failed to find the staphylococcus aureus, which is one of the most important causes of pyemia in man. As Royal Whitman of New York has said, "If rheumatoid arthritis is to be considered as of infectious origin, its distinction from ordinary forms of infection is certainly marked." The forms of infectious joint lesions with which we are familiar are of abrupt invasion, short duration and end in repair. This is wholly unlike the course of the chronic joint lesions in gout, rheumatism and arthritis deformans, and it is not to be supposed that we have entirely different factors of causation operative in the acute cases.

Chalmers Watson of Edinburg in speaking of the infection theory of gout, which he seeks to harmonize with our present views of uric acid, says, "The distinctive feature of the infection in gout is that the toxin, or toxins, have the special property of disturbing nitrogenous metabolism in a manner favorable to the deposit of uric acid in certain tissues." Such a view of bacterial influence in gout, in contradistinction to the theory which holds the germ directly responsible by its presence in the joint for the arthritis, has this at least to commend it, that it does not ignore well-known clinical facts, and indeed, even the most ardent advocate of the germ theory must admit that a high percentage of urates uniformly results from the increased destructive metabolism incident to a process of infection. A majority of those

who contend for the nervous theory of the arthritis admit a high percentage of urates in these cases, but consider them incidental, not causative. The infection theory of the arthrites seems neither warranted by the clinical data nor the bacteriological findings.

Returning now to the metabolism theory, let us see how it may be made to explain a multitude of antecedent, concomitant and sequential symptoms of gout, rheumatism and arthritis deformans that neither the germ nor nervous theories adequately cover. These symptoms, which are wholly ultra-articular, have been recognized for years as related in some way to gout and the other toxic arthrites, which is true, but a greater error was never made than to classify them as irregular gout, or the rheumatic diathesis, and doing so has confused our knowledge of the joint lesions immeasurably.

Perverted metabolism means an increase in resulting urates, which may, or may not be followed by morbid results. While elimination keeps pace with the formation, no apparent harm results, and herein lies the immunity of some people from uric acid troubles, though their urine shows a large amount of urates. It is this very elimination that has saved them. Let there occur now a failure of elimination, and at once a condition of toxæmia develops, which is well expressed by the word lithæmia, and represents the results of an excess of nitrogenous waste products circulating in the blood, and only in the event of the urates being deposited in the joints does an arthritis result. The explanation, then, of the associate symptoms of rheumatism is that they are the lithæmic symptoms produced by the same etiological factor which induces the arthritis, viz.: uric acid.

As I have so often stated in previous papers, the primary effect of a condition of lithæmia is to irritate the nervous system, especially the sympathetic in its vaso-motor centers. This results in contraction of the blood vessels, especially the peripheral arterioles, with the inevitable result of an increase in blood pressure and arterial tension. Strain is put upon the arterial walls and more work upon the heart. The single factor *strain*, however induced, is now recognized as the one essential, all-important cause of endarteritis, deformans and obliterans, arteriosclerosis and aneurism, thrombosis and embolism, and such cardiac changes as endocarditis, myocarditis, anæmic necrosis, angina pectoris, hypertrophy and dilatation. For every ischæmia there must be a commensurate, compensatory hyperæmia, and by the operation of this law is to be explained many congestive and inflammatory states, in areas that have borne the brunt of abnormal blood pressure. The symptomatology of lithæmia furnishes at once the only rational explanation of the occurrence of such ultra-articular symptoms in gouty and rheumatic subjects, as valvular endocarditis, ventricular hypertrophy, angina, bradycardia and arrythmia, congestive migraine, frequent "colds," bronchial and gastric catarrh, asthma, arteriosclerosis, miliary aneurism, thrombosis and interstitial nephritis.

Such conditions are induced by the same etiological factor, uric acid circulating in the blood, as induces the arthritis should it become precipitated in the joints. The use of the words gout and rheumatism should be limited to joint conditions alone, using the word lithæmia to cover all other conditions outside the joints. These various symptoms it should be understood constitute no part of gout or rheumatism, nor should the mistake be made of viewing the arthritis as in any way responsible for the occurrence of the circulatory disturbances named. Not only may these symptoms precede an attack of gout or rheumatism, but, as is well known, quite as often occur in persons who never become the victims of an arthritic attack. Certainly these symptoms, though sustaining an indisputable relationship to gout and rheuamtism, cannot be charged to an arthritis which never existed. Neither the nervous nor the infection theory of gout and the other toxic arthrites can be said to offer a tangible explanation of these phenomena.

The nervous symptoms most often found in association with gout or rheumatism show both functional and trophic perversion, and include such groupings as irritability, melancholia, hysteria, the vaso-motor neuroses generally, neuritis, neuroretinitis, palsies of the external rectus eye muscles, neurasthenia, epilepsy, and chorea, which has been called "cerebral rheumatism." Sutherland tells us that rheumatism is often associated with chorea in youth and Graves' disease in later life, which later disease Llewellyn Jones again advises us is often associated with arthritis deformans. Bussi and others report cases of tetanus, without injury, undoubtedly toxic in origin and which they denominate "rheumatic." Under the name of "psoriatic arthropathy," Adrian reports the combination of chronic arthritis with psoriasis—a trophic neurosis. The causative relationship of lithæmia to psoriasis, eczema and several minor skin lesions is well known. Cases of "peliosis rheumatica," or an association of purpuric, or hemorrhagic spots with an arthritis are frequently reported, though it may be questioned if the trophic changes be a pure neurosis, or are of vaso-motor origin. The relationship of gouty or rheumatic arthritis to these several nervous conditions cannot be questioned in the light of our knowledge of uric acid toxæmia, but, as with the vascular conditions above mentioned, they cannot be considered an integral part of the arthritis. We may not even speak of them as premonitory, though they be precursory in point of time. There is no casual relationship between them. The one is the nervous, the other the arthritic manifestations of a common cause.

Yet other symptoms which have been reported by different writers as being related to rheumatism are coryza, localized edema, subcutaneous fibrous nodules, pruritus and other sensory disturbances of the skin, iritis, keratitis, choroiditis, rheumatic sore throat, recurring tonsillitis, torticollis, "stitch" in the back, lumbago and pleurodynia. These conditions are likewise known to be induced by uric acid toxæmia. A few writers upon diseases

of children lay special stress upon certain symptoms which they advise should admonish us of the presence of the "rheumatic diathesis." They are frequent "colds," herpes, chilblain, repeated attacks of tonsillitis, epistaxis or "causeless vomiting," stiff neck, "growing pains," impetuous restlessness, afternoon rise of temperature without apparent cause, malaise, periodical headache, the child being thin, pale and nervous and exhibiting an apparent anæmia out of all proportion to the slight illness. Chorea and endocarditis are especially suggestive.

The journals from time to time report interesting cases illustrating various complications of uric acid phenomena. Dr. D. J. Milton Miller of Philadelphia, for instance, in the June number of *Archives of Pediatrics,* reports the case of a girl of ten years, who, following an attack of tonsillitis, was, in close succession, attacked with multiple arthritis, erythemia, purpura, abdominal colic, intestinal hemorrhage and hemorrhagic nephritis. These seven distinct conditions, if they might be so called, occurring within a period of about 40 days, can best be explained as kindred manifestations of a common cause. Uric acid toxæmia will explain them all. Getman and Amidon, in the July 25, 1903, number of the *Medical Record,* report a case of a lady with a family history of possible lithæmia, who was migrainous, and while suffering an attack of phlebitis, following a jar only, had an attack of typical gout in the left big toe joint. The case was diagnosed "gouty phlebitis." Dr. Sarah Welt-Kakels reported to the November 13, 1902, meeting of the New York Academy of Medicine a case of purpura with mitrial insufficiency in a child of four years suffering from a rheumatic arthritis. The association of some form of uratic arthritis with endocarditis and nephritis is common.

Such is a cursory and somewhat disconnected presentation of the subject of gout, rheumatism and arthritis deformans from the standpoint of their uric acid causation, and much yet remains to be said upon so comprehensive a subject. Interesting as it would be to trace, step by step, each pathological departure from a disturbance of metabolism on the one hand to either gout, rheumatism or arthritis deformans on the other, it must suffice, at this time, to say that gout may be attributed to the deposit of urates in the joint; rheumatism to the influence of uric acid toxæmia in disturbing the circulation in a manner to cause stasis, effusion and finally inflammation, while a deforming arthritis owes its insidious course, trophic changes and ultimate distortions to an antecedent and increasing failure of nutrition of the tissues, in and about the joint, resulting from the direct influence of uric acid toxæmia in contracting the peripheral circulation.

This effect of the toxæmia, it should be remembered, falls with special weight upon the joints for the reason that their dense tissues, normally, have relatively small blood vessels, and, being for the most part distant from the central impulse to circulation, sustain a relatively low blood pressure, which favors stasis with its well-known results. Which form of arthritis will

develop is as much beyond the ken of man to say as to say what type of display any other dyscrasia may exhibit.

The various types of arthritis deformans are more unlike gout and rheumatism than they are unlike each other. The element of deformity which is so prominent a part of the disease as to have furnished the name "deforming arthritis," forms only an inconsiderable part of either gout or rheumatism, and is largely the result of inflammation, which is responsible only in a small way for the structural changes of arthritis deformans—which include both atrophy with erosion and necrosis, and hyperplasia with fibrosis and exostosis. With circulation impaired, showing at one point anæmia, at another hyperæmia; here a stasis and there a migration of cell elements into surrounding parts, causing the joint structure at one point to melt away for want of nutrition, and at another point to suffer an overgrowth of adventitious tissue, the contraction of tendons and fasciæ accomplishes the rest and a deforming arthritis from a primary uric acid toxæmia has been wrought. Nutritional changes comprise the great difference between arthritis deformans and gout or rheumatism.

It is rather to be expected that a disease whose pathology is in so unsettled a state as the joint lesions we are considering would be assailed by many methods of treatment. However, as we turn to this phase of the subject, the consensus of opinion among clinicians as to treatment is everywhere apparent, among physicians of all schools. Gout, rheumatism and arthritis deformans are by perhaps nine physicians out of ten treated as uric acid conditions. Proof of this is the fact that the use of the alkalies, salicylic acid in some form, colchicum and elimination at the spas, or otherwise, comprise the treatment of the day. It speaks in no uncertain language of the truth of the uric acid theory. Even those who espouse the nervous and germ theories make no claim for the curative influence of nerve remedies or germicidal agents. The clinician's is the strenuous duty to allay suffering and save human life, and that knowledge born of a rich experience at the bedside, which needs no theory to sustain it, is his guide and stay in the hour of need. If treatment, in some form, directed to the relief of the uric acid diathesis, were not the most efficient in the relief of the arthritis, that rigid censor experience would certainly long ago have relegated it to disuse.

The basis of all treatment for gout, rheumatism and arthritis deformans may be expressed by the one word elimination. Adjuncts to this are suitable diet and means to maintain good digestion, assimilation, nutrition and metabolism. Daily hot baths favor elimination through the skin, and if they are followed by cold sponging and massage, tend to restore capillary circulation and increase glandular activity.

Manifestly diet should be regulated so that an excess of uric acid forming food be not taken; due attention, however, being paid to nutrition. Uric acid, and the remaining toxic bodies of

the alloxur group, are nitrogenous bodies and must come from a nitrogenous source. That source has been shown to be the destructive metabolism of the body tissues and nitrogenous foods consumed. Meat is the type of nitrogenous food, and clinical experience has abundantly demonstrated that a meat diet is unsuited to the uric acid diathesis. Kionka has even produced typical gout in hens, and Bannes acute and chronic nephritis in dogs by an exclusive meat diet. Reduce the amount of animal food, ripe peas and beans and cheese to the lowest point consistent with maintaining nutrition. The liberal use of water should be enforced to flush the sewers and wash away the products of waste. Exercise serves the double purpose of increasing oxidation and promoting elimination.

The medical treatment of gout, rheumatism, etc., for the most part, is covered by two general methods of treatment, viz.: the alkaline and the salicylate. The alkaline treatment has come down to us across the century that has gone and originally comprised the use of such bland alkalies as the carb., bicarb., citrate and phos. of soda and the carb., bicarb., citrate and acetate of potash. Lithia salts have since been added to the list for their well known property of holding uric acid in solution, and now calcium carbonate is being pressed, from a single source, upon our attention as a remedy in all uric acid troubles, because, forsooth, Croftan reports good results following its use in four cases of renal colic. In speaking of the alkaline treatment, I do not wish to be understood as including carbonate of lime, a salt whose influence over arthritic conditions remains to be shown.

The alkaline treatment has certainly stood the test of time, and is used today by physicians of all schools more generally than any other form of treatment. The justification for this widespread use of the alkalies is their chemical action in combining with uric acid to make soluble urates; their action on metabolism and their action as renal depurants. Individual preferences for the different salts are expressed, but it would be difficult to prove which is really the most efficacious, and in truth certain combinations show a range of action not possessed by any single salt. As most cases of lithæmia and of toxic arthritis show a scanty secretion of urine, the combination of a diuretic with the alkaline solvents—renal depurants—makes a most ideal treatment. For the further reason that the heart, in so large a percentage of cases, suffers various injuries incident to the strain of high blood pressure, it has seemed the part of wisdom to fortify the heart against such injury by giving a heart tonic along with eliminative measures.

Alkalithia is a preparation which possesses these several desirable qualities, and being a granular effervescent salt, presents the alkalies in the most palatable form. It is composed of bicarbonates of soda and potash and carbonate of lithia in combination with caffeine, which, Bartholow tells us, is a heart tonic second only to digitalis, and is diuretic because it dilates the capillaries at the same time it strengthens the action of the heart.

Its known physiological action renders it peculiarly fitted to overcome the circulatory disturbances in uric acid toxæmia. The giving of alkalies, merely, may not accomplish elimination. They effect soluble compounds with uric acid, but a free flow of urine is necessary to carry them from the system while in solution. Alkalithia has been made to serve this dual purpose, and meets the indications in gout and rheumatism more perfectly than does any preparation with which I am familiar. The action of caffeine in improving capillary circulation renders Alkalithia especially suited in uric acid conditions, where trophic changes prevail. Those who have used Alkalithia with such good results in sporiasis, dry eczema, and amenorrhea in connection with lithæmia, will appreciate its influence over nutrition and understand how it may be made to assist in relieving the trophic changes in arthritis deformans.

In striking contrast to Alkalithia, with its sustaining influence upon the heart, is the use of the salicylates in the treatment of gout and rheumatism. They all possess a similar action, which is the action of the salicylic acid entering into their composition. The salicylate treatment is new, in comparison with the use of the alkalies, and is popular with many because of its prompt action in relieving pain and fever. This makes of the salicylates very tempting drugs in the treatment of inflammatory joint lesions, but the *rationale* of their action is justly comparable to that of the coal-tar derivatives in the relief of headache, which, though prompt, the profession has finally learned, are as disastrous to the heart as they are soothing to the head; and when the action of the salicylates in gout and rheumatism is more fully appreciated, it will be as surely realized that their analgesic and antipyretic action is at the expense of the heart.

It is only by its depressing influence upon the heart that a salicylate reduces the temperature and induces a copious perspiration that brings relief from pain and overcomes inflammation, and the semblance of a cure is speedily wrought, but, as F. LeRoy Satterlee of New York has learned, from a rich experience in the treatment of rheumatism (which he believes, "we must consider as one of the phases of the uric acid condition of the system"), "How many physicians who may succeed in quelling an acute attack of rheumatism with salicylate of soda, or the salicylates, find but a short time elapse before they are again called to treat another and severer attack in the same patient?" And again, "In the treatment of rheumatic heart affections, how frequent are the relapses if the system is not saturated as soon as possible with such bland alkalies as will not disturb the digestion or appetite, instead of the too prevalent exhibition of colchicum with its injurious action on the heart?" and "I think it is well established that many cases of sudden death, in patients suffering from acute rheumatic diseases, are directly caused by the old method of using colchicum as a remedy."

Thornton sums up the action of salicylate of soda in rheumatism in language not calculated to increase its popularity. "I must admit that I have employed this drug somewhat largely, but

although it has occasionally appeared to diminish pain, it has certainly caused no material shortening of the attack, and on several occasions I have thought that the duration had perhaps been increased by it." Dujardin Beaumet advises against the use of salicylate of soda if albumen is found in the urine, and says it is quite apt to be found in cases of rheumatism. Soda salicylate is palliative and often results in the semblance of a cure, but, its failure to prevent relapses and cardiac complications is to be explained by the fact that it does not remove the cause, uric acid. It is analgesic and antipyretic, but lacks the eliminative action possessed by the alkalies. As good an authority as Germain See reports that he has observed no increase in the amount of nitrogenous excretion after the use of salicylate of soda, in health and in disease. The salicylates are furthermore possessed of other unpleasant effects than depressing the heart. They are very nauseating to the taste and destructive alike to both appetite and digestion, and frequently induce vertigo and ringing in the ears. Chartires of Glasgow attributes toxic properties to salicylic acid and find ten grains of the synthetic product sufficient to kill a rabbit in two hours.

Is there any evidence to be adduced that the salicylate treatment for rheumatism and gout is more than palliative, and should not the conscientious physician resort to its use with as much reserve as he would prescribe an acetanilid mixture for headache? The parallelism is striking. The heart is the one organ in the body that may suffer more during an attack of gout or rheumatism than the joints, and is less likely to escape permanent injury, for the reason pointed out above, that it is laboring under the strain of increased blood pressure. Any agent, like salicylate of soda, which depresses the action of the heart, renders it that much less capable of withstanding the strain imposed and invites both functional failure and structural injury. Though its results are often very flattering, nothing could be more unscientific than the application of the salicylate treatment as a cure for uric acid arthritis, unless, possibly, it be the combination of a salicylate with colchicum, or the use of the even more depressing acetanilid, which is recommended.

The arthritis of either gout or rheumatism, within itself, does not kill, but the fatal cases yield either to heart failure, in some form, embolism, arteriosclerosis or chronic Bright's disease; and as the latter disease has its beginning, as I believe, in a compensatory hyperæmia in connection with lithæmia, it will be seen that a fatal issue in gout or rheumatism is to be traced to some injury of the circulatory organs. It is for this reason that the reaction is bound to come against the use of the salicylates, colchicum and the coal-tar derivatives in gout and rheumatism, and for the same reason, that I would impress upon you the wisdom of adhering to the use of the alkalies instead, and by combining their use with caffeine, as in Alkalithia you are, at the same time and with a single prescription, both removing the cause of the arthritic attack and safeguarding the action of the heart instead of weakening it.

MARYLAND MEDICAL JOURNAL

NATHAN WINSLOW, M.D., *Editor.*
Associate Editors:
THOMAS R. BROWN, M.D. | JOSE L. HIRSH, M.D.
HUGH H. YOUNG, M.D. | A. SAMUELS, M.D.
RICHARD H. JOHNSTON, M.D.

BALTIMORE, JANUARY, 1918

SOME RARE AND NEW LUNG DISEASES.

IN former days physicians very reluctantly made the diagnosis of phthisis, especially in the stages where its presence was not evident to laymen. Today the tendency is the other way, and with our new facilities for relief and cure, the physician gives the sanitarium the benefit of the doubt, and is inclined to label all chronic wasting lung diseases "T. B."

The postmortem evidence in sanitariums warns, however, that even sanitarium cases of many years' duration have proven not to have been tuberculous; and it is therefore desirable that the practitioner should know the diseases which are most apt to be mistaken for phthisis.

The recognition of obliterating *fibrous bronchiolitis* dates from 1901. Postmortem the cut lung shows grayish white nodules resembling miliary tubercles, and the X-ray plate shows them also. Many irritating gases leave it in their wake, and it is said to follow measles and whooping-cough. The symptoms of this occlusion of the bronchilles are dyspnea and cyanosis.

Pulmonary blastomycosis appeared in medical literature perhaps as recently as 1914. Although there are usually abscesses to be found on the surface sooner or later, it sometimes comes on exactly like tuberculosis—a cold going on to chest-pains, fever, dyspnea, cough, bloody sputum, hemorrhages, emaciation. It should be suspected whenever apparently phthisical patients show no bacilli. The blastomyces may be found in pus or sputum. It is usually fatal. Potassium iodide and tonics may help.

The California disease, *coccidioidal granuloma,* has an organism akin to the preceding, and has been known about twenty-one years. It usually begins in the lungs, developing skin lesions later, and proceeds exactly like tuberculosis, both in its symptoms and in its physical signs, as well as in postmortem appearances. There is more lymphatic involvement than in the preceding. All lung cases have died.

Aspergillosis of the lungs has been identified for about twenty years. It begins like bronchitis, with cough; then purulent blood-streaked sputum, indigestion, night-sweats, evening fever, emaciation, bronchial dilatation. It may begin with hemoptysis. It may cure itself, leaving lung induration. Potassium iodide and Fowler's solution may help.

Sporotrichosis of the lungs should be known to all practitioners,

though it is very rare. The patient may have a chronic cough, sputum, dyspnea, apical dullness and rales. The differentiation from tuberculosis is made by bacteriological study of the sputum. The infective organism flourishes on certain vegetables, and one case is said to have been due to the handling of coffee. No definite treatment has been established, but as the disease affects "run-down" patients their upbuilding would be indicated. The disease has been found chiefly in the Mississippi Valley region, but it could probably be found elsewhere if all apparently consumptive patients were thoroughly examined.

The extraordinary resemblance of *streptothricosis* to tuberculosis when it affects the lungs and the apparent frequency with which it is met in ordinary practice (one sanitarium yielded two per cent. of cases), gives it especial importance in our review. Organisms of this family are found widely on foodstuffs, and hide frequently in carious teeth and tonsil crypts. Gaining access to the lung, it may involve one apex only, and slowly spread to adjacent parts and the opposite side. The cough, sputum, purulent or blood-streaked, the hemoptysis, indigestion, night sweats, pain, emaciation and fever are exact duplicates of those in tuberculosis. It may light up into active pneumonia at any time. The post-mortem reveals fibroid changes with granular bodies exactly like miliary tubercles. An important point is that careless operations on the tonsils sometimes spread the infection to the lungs. The thread-like, branching organism is easily detected in the sputum. The patients usually go on steadily to death. It is said that iodide of potassium has had good results. There is need of earlier diagnosis. Building up of the general health is, of course, important.

One of the penalties attached to intercourse with the populations of the ancient continent of Asia is the importation of disagreeable new diseases to which they have for ages habituated. Among these diseases is one known to us as *distomatosis,* a disorder caused by the presence of the larvæ of a trematode worm, which larvæ are swallowed and grow, encysted, to maturity in the lung tissue. In the majority of cases the lungs alone exhibit symptoms, exactly duplicating those of tuberculosis, so that diagnosis outside of the laboratory is impossible. The eggs are in the sputum. Fortunately, immigrants alone have it as yet. They live perhaps thirty years, and may get well in a non-infected country.

Actinomycosis, the "big jaw" of cattle occasionally, in Europe, affects the human, simulating tuberculosis of the lung. There are sulphur-like granules in the sputum which, with the microscope, show the growth.

Never diagnose chronic lung disease without sputum examination.

Medical Items.

The following Maryland men, officers of the Medical Reserve Corps, have received their orders to report for duty:

To Army Medical Museum, in connection with supplying illustrations for lecture work, Major Robert T. Taylor, Baltimore.

To Camp Greene, Charlotte, N. C., base hospital, from Camp Wheeler, Lieut Alexander McC. Stevens, Easton.

To Camp Lee, Petersburg, Va., base hospital, from Fort Myer, Lieut. Henry L. Smith, Baltimore.

To Camp McClellan, Anniston, Ala., for duty, from Fort Oglethorpe, Lieut. Frank B. Hines, Chestertown.

To Camp Meade, Annapolis Junction, Md., base hospital, Lieut. Howard H. Warner, Baltimore.

To Camp Sherman, Chillicothe, Ohio, base hospital, from Fort Des Moines, Major Frank Martin, Baltimore.

To Fort McHenry, Md., for duty in the United States Army General Hospital No. 2, from Rockefeller Institute, Lieut. John F. Lutz, Baltimore.

To Fort Oglethorpe, Ga., for instruction, Lieut. Frank L. Jennings, Baltimore.

To Fort Porter, N. Y., for duty, from St. Elizabeth's Hospital, Washington, D. C., Capt. Daniel C. V. Stuart, Jr., Baltimore.

To Fort Riley, Kans., for duty with Evacuation Hospital No. 7, from Camp Sheridan, Major Don P. Peters, Baltimore.

To New York City, Neurological Institute, for training in brain surgery, from Fort Oglethorpe, Lieut. George W. Bishop, Govans.

To Rockefeller Institute, for instruction, from Fort Oglethorpe, Lieut. Claude D. Hamilton, Sykesville.

To Walter Reed General Hospital, Takoma Park, D. C., for instruction in tuberculosis examinations, Lieuts. Israel J. Feingles, Baltimore; Samuel Newman, Baltimore.

To his home and the inactive list on account of being physically disqualified for active service, from Hoboken, N. J., Lieut. James A. Etheridge, Baltimore.

To his home and honorably discharged on account of being physically disqualified for active service, from Camp Sevier, Greenville, S. C., Lieut. George McLean, Baltimore.

To Camp Taylor, Louisville, in base hospital, from Fort Des Moines, Major Frank Martin, Baltimore.

To Fort Oglethorpe for instruction, Capt. Rastus R. Norris, Crisfield; Lieuts. Vernon S. Wilkinson, Aberdeen; Hovhannes K. Peltekian and John H. Traband, Jr., Baltimore.

To Fort Sam Houston, Tex., for temporary duty at Camp Stanley, Leon Springs, Tex., from Fort Oglethorpe, Lieut. Leo. F. Steindler, Baltimore.

To Philadelphia, for taking moving pictures for instruction purposes, and upon completion to his proper station, Major Robert T. Taylor, Baltimore.

To Rockefeller Institute for instruction, Lieut. Robert S. Cunningham, Baltimore.

To St. Louis, Washington University, for instruction, from Fort Oglethorpe, Lieut. William H. Smith, Jr., Hagerstown.

To Camp Gordon, Atlanta, Ga., as member of board for examination to command for tuberculosis, from Camp Sheridan, Lieut. Algernon D. Atkinson, Baltimore.

To Camp Logan, Houston, Tex., as assistant to division surgeon, from Camp Greenleaf, Capt. Thomas R. Chamber, Baltimore.

To Camp Meade, Annapolis Junction, base hospital, Lieut. Frank C. Marino, Baltimore.

To Fort Myer, Va., for duty, from Washington Barracks, Capt. Maynard J. Simmons, Indian Head.

To Memphis, Tenn., Aviation School, Park Field, for duty, from Fort Benjamin Harrison, Capt. Compton Wilson, Friendship.

To Montgomery, Ala., Aviation Mobilization Camp, for duty, from Fort Oglethorpe, Lieut. Alexander B. Kalbaugh, Westernport.

To Philadelphia, Pa., Evans Dental Institute, base hospital, Capt. Hugh W. Brent, Baltimore.

Honorably discharged, on account of being physically disqualified for active service, Lieut. James Etheridge, Baltimore.

Representatives from all the hospitals in Baltimore appeared before the Board of Estimates recently and showed that it is impossible to treat city patients sent to the hospitals by supervisors of city charities at the existing rate of 62½ cents a patient per day, because of the high cost of food, medicine, gauze and coal. The city was asked to pay the hospitals next year $1.75 a patient a day. Dr. Charles O'Donovan, who represented St. Joseph's Hospital, said that it cost that hospital to maintain and treat a patient sent by the city $1.55½ a day. St. Joseph's from October 1, 1916, to October 1, 1917, has spent on city patients $56,000, and 1,723 patients were sent to the hospital by the city authorities for treatment during that time. Dr. Alexius McGlannan, who

IN PLACE OF OTHER ALKALIES USE

Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid Feeding

Phillips' Phospho-Muriate of Quinine

COMPOUND

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be Relied Upon Where a Deficiency of the Phosphates is Evident

NEW YORK THE CHAS. H. PHILLIPS CHEMICAL CO. LONDON

When the Stomach Rebels

against any of the alkaline iodides and you want to get the ideal action from iodine

Use Surgodine

in doses of from 2 to 30 drops well diluted.

Exceptionally efficient in bronchitis, rheumatism and syphilitic conditions.

In 4-ozs. and pints at your druggist's.

SHARP & DOHME

since 1860

careful conscientious chemists

represented St. Agnes' and Mercy Hospitals, stated that it costs those hospitals $1.50 a day to maintain and treat a patient. Dr. Randolph Winslow of the Maryland General Hospital placed the cost of city patients in the hospital from $1.50 to $1.60 a day. Similar statements were made by Dr. G. Milton Linthicum of the University Hospital; Dr. Smith of Mercy Hospital, and Dr. Albert T. Chambers of the Franklin Square Hospital. Dr. Linthicum pointed out to the board that the city officials should take good care of the hospitals so that the poor patients sent for treatment might be given proper care. It was hinted by all the physicians present that unless the city pays more money for the poor patients sent for treatment, the work will have to be curtailed or stopped altogether.

Dr. Harry S. Jarrett, Towson, who has been under treatment at the Mercy Hospital, Baltimore, has returned home, and his condition is much improved.

Dr. Lewellys F. Barker of the Johns Hopkins Hospital delivered a lecture, illustrated by lantern slides, at the New York Academy of Medicine, December 7, on "The General Diagnostic Study by the Internist."

Lieut. James M. Shields, formerly of Colorado, has been stationed at the base hospital at Fort McHenry, where he will have charge of the eye, ear, nose and throat ward.

Dr. Alexander R. Mitchell, Monkton, has been appointed health officer of the Seventh District of Baltimore county.

Dr. William S. Thayer, who has been in Petrograd for several months with the American Red Cross Mission, is on his way back to the United States.

At the semi-annual meeting of the State Lunacy Commission with the boards of managers of the State Institutions for the Insane and Feeble-Minded and the Board of State Aid and Charities, held November 22 in Baltimore, the report of the commission showed that there were in the twenty institutions under the supervision of the commission on September 30, 1917, 5196 patients, or one patient to every 22 of the population of Maryland. There were admitted during the biennial period 4557 patients. The total number of patients discharged and died during the biennial period was 4194, leaving a net increase of 363 patients for the two years. During the past five years there has been an average yearly net increase of 150 patients. The report on the after-care work for the past year showed that a saving of $10,693 had been made by paroling patients under the supervision of the after-care agent and making them more or less self-supporting. In all 124 patients were paroled under the supervision of this department. As a result of a preliminary survey of the feeble-minded, conducted through the co-operation of the Committee on the Prevention of the Feeble-Minded, it was recommended that a complete survey of this class of defectives be made throughout Maryland during the coming year. The report urges that farm colonies be established at the State institutions to supply sufficient beds for the rapidly increasing number of insane and feeble-minded at the lowest possible per capita, as well as to increase the farming activities of the institutions.

Dr. James A. Nydegger, U. S. P. H. S., Baltimore, delivered an address on the "Relation of the Rural Schools to National Health," at the Maryland State Teachers' Association. Dr. Nydegger claims the insanitary condition of our rural schools is the chief cause of the poor physical condition of so many young men who have been drafted and found to be unfit for military service.

DEATHS

M. L. Withers, M.D., Wallace, Va.; College of Physicians and Surgeons, Baltimore, 1878; aged 69; died in a hospital near Richmond, Va., November 10.

Zephaniah Kerr Wiley, M.D., Baltimore; College of Physicians and Surgeons, Baltimore, 1875; aged 74; a Confederate veteran; lecturer in anatomy in Baltimore Medical College, and one of the founders; later professor of anatomy, professor of obstetrics and dean of Baltimore University; who was thrown from a street car while making a professional call about a month ago; died from his injuries in the Biedler-Sellman Sanatorium, Baltimore, November 25.

Ira F. Gose, M. D., Eureka, Utah; College of Physicians and Surgeons, Baltimore, 1896; aged 44; formerly a member of the American Medical Association; who was injured when his automobile overturned near Santaquin, November 10; died from his injuries in the Provo (Utah) General Hospital, November 12.

FELLOWS' SYRUP

Differs from other preparations of the Hypophosphites. Leading Clinicians in all parts of the world have long recognized this important fact. HAVE YOU?

To insure results,
PRESCRIBE THE GENUINE

℞ Syr. Hypophos. Comp. FELLOWS'

REJECT < Cheap and Inefficient Substitutes
Preparations "Just as Good"

THE FELLOWS
MEDICAL MANFG. CO. LTD.
26 CHRISTOPHER ST.
NEW YORK

WILLS HOSPITAL OPHTHALMIC SOCIETY.

Meeting November 5, 1917.

Dr. McCluney Radcliffe, Chairman.

Dr. P. N. K. Schwenk exhibited a case of congenital cataracts in a baby boy, in which he removed the lens from each eye. One eye was operated upon at the age of 11 months, and the other at the age of 14 months. Attempts at discission failed, owing to extreme toughness of lens capsule. He therefore opened the anterior chamber by means of a keratome, grasped the anterior capsule with iris forceps, and delivered the lens in its capsule. Recovery was prompt. Two months later the left eye was treated in a similar manner, but the capsule tore and some cortex remained in the anterior chamber. The recovery was uneventful. Before the operation there was a divergent squint O.S., but at the age of 16 months he ordered a + 8.00 D. lens for each eye, and, when worn, the visual axes were parallel. This is the youngest child he has ever glassed.

At the present time the left eye shows an occluded pupil and a bowed iris, due to an accident after leaving the hospital.

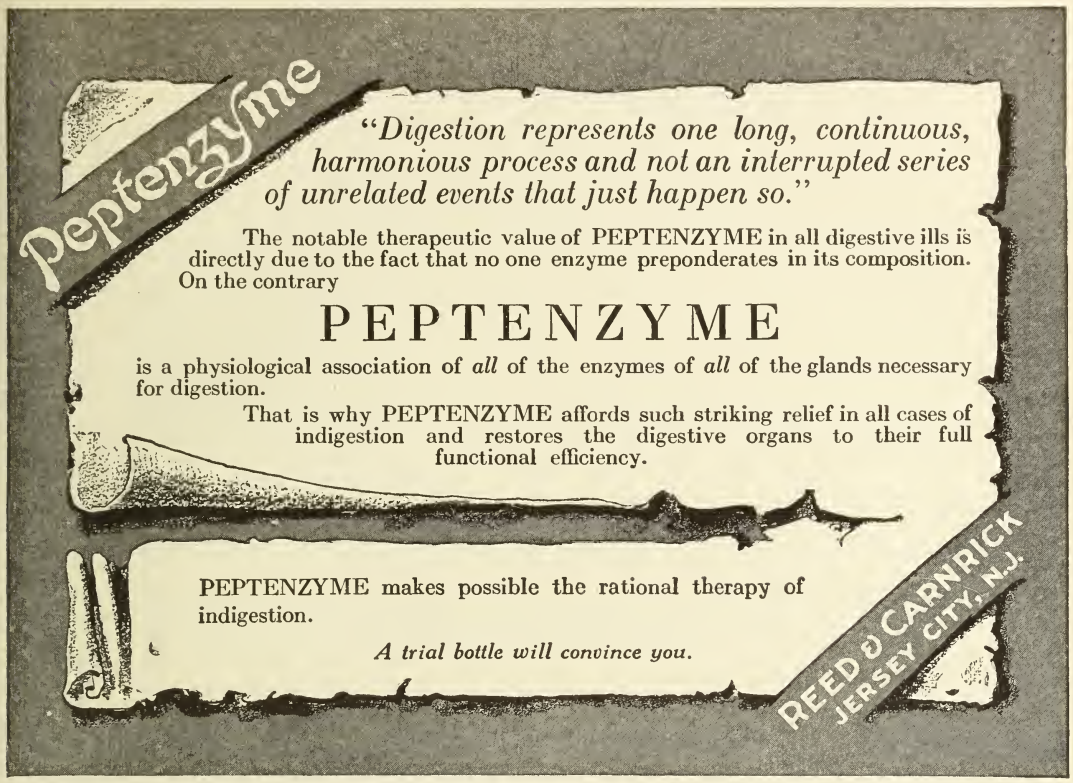
Discussion by Dr. Wm. Zentmayer.—"While this particular case, exhibited by Dr. Schwenk, admits of no other operative procedure than that employed, the left eye illustrates what may and often does occur following the operation of linear extraction of juvenile cataract. Here the result was good in one eye, but in the other eye the adhesion of the iris to the wound was extensive, and has produced an inflammation which has rendered the eye visually useless. There is no question of the far greater safety of repeated discissions."

In reply to a question of Dr. Kleinhans, Dr. Zentmayer said that he thought the operation should be done early, about the second year.

Dr. Zentmayer exhibited, from the service of Dr. Chance, a woman 60 years old, who had recently noticed a bulging of right eye preceded by nose-bleed. There was a firm ridge-like palpable mass just within the inferior orbital margin. There seemed to be slight bulging of internal process of frontal bone on same side. Movements of the globe were somewhat restricted downward and outward. The fundus could not be examined because of immature cataract, which also prevented testing the visual acuity. The patient had just been admitted, and was shown for diagnosis. Probably a malignant growth in antrum.

Dr. Zentmayer showed, from service of Dr. Chance, a girl with symmetrical lenticular opacities in anterior and posterior cortex limited to one-eighth circumference of perinuclear zone. They were probably of the zonular type.

Dr. Wm. Campbell Posey presented a case of bilateral coloboma of lower lids. The notch in the right eyelid occurred at junction of middle and outer third; in the left eyelid at junction of middle and inner third. Both superior maxillary bones showed faulty development, in consequence of which the right side of mouth was drawn markedly upward. The inner halves of both upper lids exhibited colobomatous tendencies, the lid margins in this position being drawn upward in a sweeping curve, with its convexity downward. Dr. Posey had corrected the fissure in the right eyelid by a plastic operation. His colleague, Dr. John B. Roberts


Peptenzyme
"Digestion represents one long, continuous, harmonious process and not an interrupted series of unrelated events that just happen so."
The notable therapeutic value of PEPTENZYME in all digestive ills is directly due to the fact that no one enzyme preponderates in its composition. On the contrary
PEPTENZYME
is a physiological association of all of the enzymes of all of the glands necessary for digestion.
That is why PEPTENZYME affords such striking relief in all cases of indigestion and restores the digestive organs to their full functional efficiency.
PEPTENZYME makes possible the rational therapy of indigestion.
A trial bottle will convince you.
REED & CARNRICK
JERSEY CITY, N.J.

MELLIN'S FOOD

In every step in the manufacture of Mellin's Food there is constantly in view the ultimate object of making a product of definite composition

to Accomplish a Definite Purpose.

This purpose is to furnish certain food elements which, when added to cow's milk, make it a suitable food for an infant. The food elements in Mellin's Food—carbohydrates (maltose and dextrins), proteins and salts—when dissolved in water and added to cow's milk so change the balance of nutrition in cow's milk that the resulting modification presents fat, proteins, carbohydrates and salts in the proportion needed

for the Development of Infantile Life.

The success of Mellin's Food, therefore, depends not upon any one of the food elements of which it is made up, but upon the definite composition of "Mellin's Food as a whole" as a means to enable the physician to modify cow's milk to meet the requirements of infant feeding

in a Scientific, Rational and Efficient Manner.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

of Polyclinic Hospital, had corrected the deformity at angle of mouth. The coloboma in the left eyelid, which was complicated by symblepharon and marked retraction of the tissues in that region, had resisted correction at the first operation. Dr. Posey said he had another in mind which aimed at correction of the deformity by transplantation of a flap of skin from the root of the nose into the colobomatous area.

Dr. Paul J. Pontius presented a case of a boy 15 years old, who was struck with a shot from an air-rifle. This shot hit the sclers of right eye about 10 mm. to outer side of cornea. The accident occurred 10 days ago. Patient was first seen 22 hours later. At this examination nothing was seen but the external injury to sclera, which showed as a circular area of hemorrhage 2 mm. in diameter. Eight days later bulging occurred over this area. Today the fundus shows a patch of choroiditis beneath the site of scleral wound. The surrounding choroid shows some deep effusion and is slightly elevated. There is, however, no retinal detachment. The disc shows minor early optic neuritic changes.

NEW TENNESSEE LAW PROVIDES FOR SANITARY SODA FOUNTAINS AND LUNCH ROOMS.

NOTE: The Government has decreed that soda fountains in or near the training camps must either sterilize the glasses or use paper or paraffin containers.

Seven or more States, as well as individual cities, have taken action tending to make the soda fountain safe for thirsty humanity.

This rule of the Tennessee Food and Drug Department is held to be a model protective measure. It is strict in its provisions; likewise it is fair and reasonable.

FOOD AND DRUG DEPARTMENT.
STATE OF TENNESSEE.

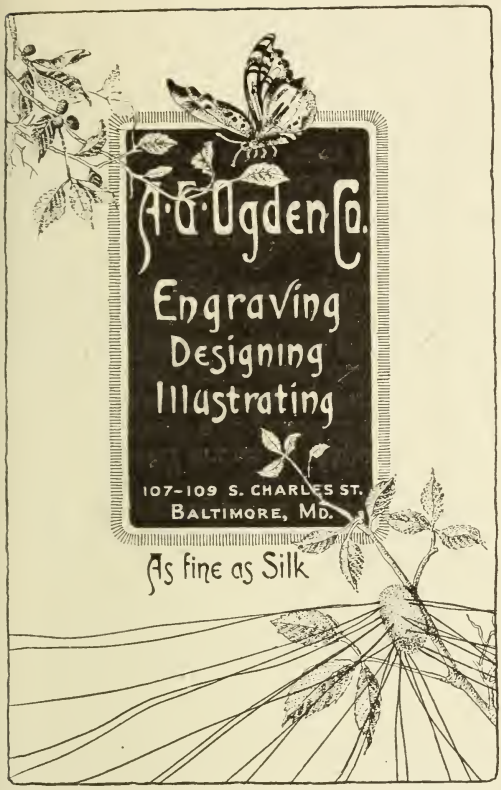
WHEREAS, Chapter 473, Acts of 1909, in Section 1, requires in part, "That every building, room, basement or cellar.....used for the preparation.....sale, or distribution of any food shall be..... .....conducted with strict regard to the influence of such condition upon.....the purity and wholesomeness of the food therein....."

Section 2, requires in part, "That.....receptacles [and] implements.....of every establishment or place where food is.....sold or distributed..... shall at no time be kept in an unclean, unhealthful or unsanitary condition, and for the purpose of this Act, unclean, unhealthful and unsanitary condition shall be deemed to exist if food in the process of preparation, sale or distribution.....is not securely protected..... from all..... .....foreign or injurious contamination."

And, whereas, the lax and ineffective methods of washing glasses, dishes, etc., have been demonstrated to be a prolific source of distribution and spread of communicable diseases among patrons of food and drink handling establishments. One of the following procedures for the cleaning of glasses, dishes, spoons and all receptacles and implements used in serving food and drinks to the general public will hereafter be required by this Department.

THE CLEANING OF GLASSES, DISHES, SPOONS AND ALL IMPLEMENTS AND RECEPTACLES USED IN SERVING FOOD.

All glasses, dishes, spoons and all implements, such as knives, forks, etc., and all receptacles used in serving food each time used by a customer shall be thoroughly cleaned and rendered free from



Campetrodin

(MADE IN TWO STRENGTHS OF IODINE)

This preparation is an Oleaginous Solution of Iodine in Camphor. ***Penetrating, Powerful Antiseptic, Local Analgesic, Alterative. Ideal Surgical Dressing, Soothing***

A convenient application for wounds, bruises, burns, sores. Useful as an inunction (rubbing for two or three minutes, t. i. d., over the affected area) for rheumatic and neuralgic pains, swollen glands, inflammatory conditions, to abort boils, and for numerous allied disorders for which Camphor and Iodine locally are ordinarily prescribed.

Campetrodin No. 2 is double strength, and is dispensed only when designated. This form is especially valuable in reducing swollen glands, and in relieving obstinate, deep-seated rheumatic and neuralgic pains.

Campetrodin is marketed in one, three and eight-ounce bottles, retailing for 25c., 50c. and $1.00 respectively, and Campetrodin No. 2, retailing for 35c., 75c. and $1.50.

PREPARED ONLY BY

A. H. ROBINS CO., Richmond, Va.

WHEN you write advertisers, mention the MARYLAND MEDICAL JOURNAL.

Sal Hepatica

EFFERVESCENT
SALINE COMBINATION
LAXATIVE & ELIMINANT

Samples on Request

BRISTOL-MYERS CO
NEW YORK

injurious contamination in accordance with one of the following procedures before being used to serve another customer:

Hand Washing.—Receptacles and implements used in serving food when washed by hand shall first be washed in a strong, hot solution of soap and some other material equally cleansing, using a stiff brush or cloth, and rubbing all parts of same until cleaned thoroughly; *then after rinsing be boiled in clean water for a period of not less than five minutes;* then transferred to a clean place, protected from dust, dirt, flies and other injurious contamination, and allowed to dry.

Mechanical Washers.—When mechanical washers are used, all implements and receptacles shall be fully immersed in a strong, boiling solution of soap or some other material equally cleansing which is sufficiently agitated to thoroughly clean same in the time used; removed therefrom *and fully immersed in boiling clean water for a period of five minutes;* and then removed to a clean place, protected from dust, dirt, flies and other injurious contamination, and allowed to dry.

Live Steam and Dry Heat.—In lieu of boiling in water for five minutes in either of the above processes, implements and receptacles may be treated with live steam or dry heat, provided that in case live steam is used, the implements and receptacles must be placed in a closed container *and treated with live steam under at least ten pounds pressure for at least fifteen minutes,* and in case dry heat is used the implements and receptacles be subjected to a temperature of at least 356 degrees Fahrenheit *for at least one hour.*

Other Processes.—Other recognized processes, if as effective as described in A, B or C, may be used, but no substitute procedure will be recognized unless equally effective.

Attention is called to the fact that the foregoing procedures are to be used in cleaning all implements and receptacles used in serving food, and that the term food as used in Chapter 473, Acts of 1909, includes all articles used as food, drink and confectionery. Consequently this especially applies to the cleaning of implements and receptacles used in serving food, milk, water, etc., at restaurants and hotels; and to those used in serving drinks, ice cream, etc., at soda fountains, soft drink stands and ice cream stands.

PAPER RECEPTACLES.

When *paper receptacles* are used in serving food and drinks, the same shall be kept in a *sanitary manner,* protected from dust, dirt, flies and other injurious contamination, *and be used only once.*

It is urged that one of these processes of effective cleaning be adopted at once, but proprietors of establishments affected will be given a reasonable time in which to provide facilities for same. However, the department will require same from and after November 1, 1917.

HARRY L. ESKEW, *Commissioner.*

KEEP THE FARMER WELL.

IT has been stated that the supreme need of the nation during the coming months is an abundance of foodstuffs. The truth of this statement is being more and more brought home to every citizen as the days go by, the constantly increasing prices of food

The Dugdale Treatment

for

MALIGNANT GROWTHS

A refined creosote combined with hydrocarbon and essential oils. For literature, write to

FREDERICK DUGDALE, M.D.
372 Boylston Street
Suite 61 BOSTON, MASS.

Mountain Valley Water

From (near) HOT SPRINGS, ARK.

Send for Analysis

Mountain Valley Water Co.

St. Paul 7470 206 N. Calvert Street

YOUR SPECIAL ATTENTION
IS DIRECTED TO

Beef, Iron and Wine, with Hydropepsin,
Liquid Pi-cine Co., Red Syr. Hypophosphites Co.,
Compound Salol Capsules.

THOMAS & THOMPSON CO.
Manufacturers and Dispensers of Pure Medicines (Wholesale and Retail)
Cor. Baltimore and Light Sts., Baltimore, Md.

Bowel Stasis

is no longer a serious problem to those who use

PRUNOIDS

Free from griping, reactionary constipation and the other drawbacks of ordinary laxatives, this true bowel corrective owes its efficiency in restoring functional activity to its stimulation of physiologic processes.

Prunoids, in consequence, not only give *immediate relief,* but assure *permanent benefit.*

Cardiac Disorders

often respond more readily and satisfactorily to

CACTINA PILLETS

than to any other remedy. One every hour or two quickly steadies and strengthens the heart's action, imparts tone to the cardiac muscle, and removes distressing symptoms.

Thus the place of Cactina in cardiac therapy has been established beyond question.

SENG

A trustworthy gastric tonic and secernent —stimulating gastro-intestinal functions.

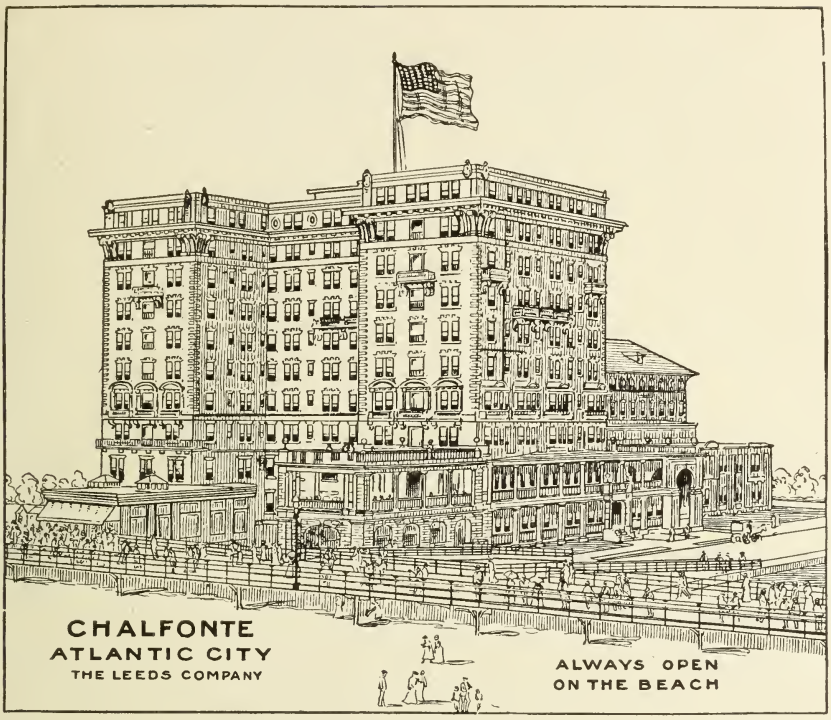
SULTAN DRUG COMPANY • St. Louis, Mo.

materials constituting reliable evidence that the situation is becoming acute. One reason for this is the scarcity of labor in our rich agricultural sections, a condition which cannot be altogether relieved. Another reason, and one which is frequently overlooked, is the lack of efficiency in the present-day worker, particularly when due to disease. It is estimated that 4 per cent. of the population of certain sections suffer from malaria, a disease which lessens production, and results in serious economic loss.

"Keep the farmer well" should be a fitting slogan of the present day. There never was a time when production was in such need of stimulation and when able-bodied men and women were in such demand. Every case of malaria, typhoid fever or other efficiency-reducing disease among the productive population means that the output of food is appreciably reduced, and that the shortage is measurably increased. A large part of the lands in the richest sections of the South, and to a less extent in the North as well, is today partially or wholly unproductive on account of being overrun with malaria, with a consequent loss of millions of dollars. It is entirely feasible to reclaim these lands and thus increase the nation's output. In certain areas the working ability of the population has been so affected by this disease that not only is there a shortage of growing crops, but also of lumber, cotton and other manufactured goods. The moving of agricultural and manufacturing hands into these districts would not materially improve the situation, as the newcomers would suffer a loss of efficiency fully as great as that of the older residents. However, if co-ordinated, intelligent and well-directed effort is instituted this serious economic handicap under which we are laboring can be easily overcome. Already examples of individual accomplishment along this line are plentiful.

At Crossett, Ark., a town of 2000 people, the United States Public Health Service working in co-operation with the International Health Board, in one season reduced the incidence of malaria by over 80 per cent. The cost of the work was $1.23 per person, less than what one would have paid for a single visit of a physician; this, too, in one of the worst malarious districts of the country. At Lake Village, Ark., the annual financial losses sustained by people protected against malaria averaged but 23 cents per family, as reckoned from money expended for physicians and medicine and absence from work on account of sickness. In the same town the neighbors of these citizens, who employed no control measures against the disease, sustained an annual loss of $11.21 per family, to say nothing of the economic loss resulting from decreased efficiency. One of the progressive railroads west of the Mississippi River foresaw this problem, and appropriated funds to keep its employes free from malaria in order to maintain its working force at the top notch of efficiency. The State of Mississippi has also inaugurated active steps which will lead to an increased output from each farm, and other efforts along similar lines are being made.

If this same active interest in malarial control can be extended generally, this disease, which has been a severe handicap to the development of certain regions, can be checked and bumper crops produced. Tremendous opportunities in this regard are open to federations of women's clubs, chambers of commerce, civic leagues and farmers' organizations, and all such effort will be repaid a hundred fold. The principles governing malarial eradi-



Select Location **PHILLIPS HOUSE** *Open All the Year*

F. P. PHILLIPS

Specially Prepared Diets for Convalescents

Nurse and Doctor on Call

Massachusetts Ave., near Beach **ATLANTIC CITY, N. J.**

SUBSCRIBE TO THE

Maryland Medical Journal

$2.00 PER YEAR

cation are inexpensive, easy of application and easily understood by any citizen of average intelligence. So important does the Government consider this work, particularly in view of the necessity of cultivating every foot of ground during the coming year, that steps have been taken to have the Public Health Service prepare and distribute directions as to how it may be accomplished. Any farmer who is even remotely interested in the problem can write to the Government and obtain this information free of charge.

ANNOUNCEMENT TO PHYSICIANS, PUBLIC HEALTH AND SOCIAL WORKERS OF THE UNITED STATES AND CANADA.

The Metropolitan Life Insurance Co. invites physicians, public health and social workers to make use of its valuable collection of mortality statistics.

These statistics present the principal causes of death among white and colored wage-earners in the United States and Canada. The material covers over 10,000,000 individuals for each of the six years, 1911 to 1916. Death rates are available for each race, by sex and by age period.

The company hopes in this way to aid in the study of disease and disability among wage-earners. It desires to stimulate medical investigation and research. By offering these statistics to the medical profession and to public health and social workers, the company expresses also its appreciation of the co-operation which it has received from physicians and others who have replied to inquiries and have given detailed information in thousands of cases. This assistance has helped to make the statistics more accurate and valuable.

All inquiries should be addressed to Statistical Bureau, Metropolitan Life Insurance Co., 1 Madison Avenue, New York City.

LITTLE PURE ZINC OXIDE ON THE MARKET.

Examinations made by the Bureau of Chemistry of the United States Department of Agriculture show that very little zinc oxide on the market in the United States complies with the standards of the U. S. Pharmacopoeia. Nearly all of the samples examined contained an excessive amount of lead. The samples were labeled "Not U. S. P.—Containing Small Quantities of Lead," and therefore complied with the food and drugs act. The labels on the packages in most instances will probably come to the attention of the druggists, but not to the attention of physicians. The medical profession will therefore not be advised as to whether or not zinc oxide preparations are made from standard ingredients. Conditions may arise where a zinc oxide preparation contaminated with lead may do injury. A limited supply of U. S. P. zinc oxide is available, and physicians may protect themselves and their patients from possible injury by calling for such material on their prescriptions.

Stanolind

Trade Mark Reg. U. S. Pat. Off.

Liquid Paraffin

(Medium Heavy)

Tasteless — Odorless — Colorless

In Treating Hemorrhoids

STANOLIND Liquid Paraffin, used regularly, very generally relieves hemorrhoids and fissure, even when of some years' standing.

Since these morbid conditions are usually the result of constipation, and are aggravated by straining, Stanolind Liquid Paraffin aids by rendering the intestinal contents less adhesive, by allaying irritation and thus by permitting the diseased tissues to become healed.

Where a contraindication for operative treatment exists, the use of Stanolind Liquid Paraffin in these conditions will frequently give relief from distressing symptoms and may even permit the parts to be restored to a condition where operative procedure may be postponed.

The ***special advantage*** of Stanolind Liquid Paraffin lies in the fact that its beneficial effects are not diminished by continual use, as is the case with almost any other laxative.

Stanolind Liquid Paraffin acts by lubrication and by adding bulk to the indigestible intestinal residue.

A trial quantity with informative booklet will be sent on request.

Standard Oil Company

72 West Adams Street (*Indiana*) Chicago, U. S. A.

75a

PHYSICIAN WANTED

WANTED—Physician; four years hospital service. Exempt. Licensed in Maryland. Locum tenens or salaried appointment. For particulars, address

BOX 12, MARYLAND MEDICAL JOURNAL,
Professional Building,
Baltimore, Md.

Publishers' Department.

Danger Due to Substitution.

HARDLY another of all the preparations in existence offers a wider scope to imposition under the plea of "just as good" than the scientifically standardized Eucalyptol.

The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Silvol: A Useful Germicide.

The signal property of Silvol is its germicidal and non-irritating effect on inflamed and infected mucous membranes. This notable proteid-silver compound contains approximately 20 per cent. of metallic silver. It is non-toxic. It is freely soluble in water, and its solutions do not require filtration. It does not coagulate albumin, and it is not precipitated by proteids or alkalies. It stains less than other proteid-silver combinations.

Silvol may be used in the treatment of infected and inflamed mucous membranes in strengths ranging from 2 to 50 per cent. It has been suggested that the addition of a small proportion of glycerin to Silvol solutions will prevent them from spreading too freely over the surfaces to which they are applied; that the glycerinized solution forms a thin film over the surface that does not immediately dry off. In other words the glycerin "holds" the Silvol to the spot.

Silvol has been successfuly used in the treatment of nasal and pharyngeal inflamations, both acute and chronic. One practitioner reports his experience with a 20-per-cent. solution of Silvol in over five hundred cases of various nasal, laryngeal and ear diseases. The solution was used either as a spray, instillation, or topical application.

An eastern specialist reports gratifying success with Silvol in the treatment of twenty-five cases of antral infection. The treatment consisted in first irrigating the sinus with normal salt solution, then injecting it as nearly full as possible with a 10-per-cent. solution of Silvol, repeating daily. Usually the cases cleared up in less than a week, often within three or four days. Another writer observed most striking results in tracheitis and bron-

LOCAL DIRECTORY

Competent Attendants for Women — Telephone Mt. Vernon 5413

GIBSON CO., Inc.
(Formerly McKEE Co., Inc.)
Baltimore's Best Surgical Instrument House
HOSPITAL, INVALID AND SICK-ROOM SUPPLIES
310 N. Eutaw Street . BALTIMORE, MD.

We Do Not Prescribe Glasses—We Make Them
BOWEN & KING
Prescription Opticians
405 North Charles St.
Telephone BALTIMORE, MD.

The National Bank of Baltimore
BALTIMORE AND ST. PAUL STS.

Capital,	$1,210,700.00
Surplus and Undivided Profits,	323,572.91
Deposits,	7,676,460.75

Chattolanee Spring Water

Delightful dance music

Our Victor Dance Records offer everything that's latest and best in dance music. Come in, and we'll play your favorites for you. The chances are we have the very piece you've been wishing to hear.

A Victrola — some Victor Records—and you can dance wherever you please and as long as you please. You can get a Victrola for **$20** to **$450** and on *the easiest of terms*. Ask us.

Victrola

COHEN & HUGHES

BALTIMORE WASHINGTON

Victor Distributors

14 N. Charles Street 220 N. Howard Street

chial asthma. In these cases a 10-per-cent. solution was applied twice a week.

A prominent urologist reports the successful use of Silvol in one hundred cases of posterior urethritis, gonorrheal in origin. A 10-per-cent. solution was applied, once a day, to the posterior urethra with an Ultzmann syringe, and each patient received a supply of the same solution for home use, to be applied two or three times a day.

Results from the use of Silvol in the treatment of eye diseases are highly favorable. A well-known ophthalmologist says: "My clinical observations of Silvol evidenced to me that in all forms of acute conjunctivitis, acute epidemic to acute gonorrheal, this product is a powerful bactericide, apparently absolutely non-irritating; even in a solution of 50-per-cent. used as frequently as every fifteen minutes, day and night, for a period of three days."

An experienced surgeon makes the assertion that Silvol is a better application in ophthalmia of the new-born than silver-nitrate. It can be used with less risk and the writer thinks he can control any case with it.

Silvol is supplied in the following forms: Ounce bottles; six-grain capsules, bottles of fifty; Vaginal Suppositories of Silvol, 5 per cent., boxes of one dozen; Silvol Ointment, 5 per cent., collapsible long-nozzled tubes, two sizes; Silvol Bougies, 5 per cent., boxes of 25 and 100.

The Great American Habit.

"The great American habit" said a prominent physician a short time ago, "is neither rapid eating, nor dining 'too wisely and well.' These are evils, to be sure, but the one great habit to which most Americans are addicted is the routine use of laxatives and cathartics. Is it any wonder some European doctor has said we are a nation of constipationists! Why, physic has become only a litle less necessary than the oxygen we breathe."

How true all this is, most physicians of broad experience will readily agree. Physic the first thing in the morning, physic before or after each meal, and physic the last thing at night! And only one purpose throughout, to move the bowels! Never a thought in regard to regulating them.

This is the pity of the whole situation, for instead of getting relief and correcting constipation, the average person is simply becoming more and more a slave to the cathartic habit.

To a certain extent this is not surprising for the great majority of remedies are simply "movers" not "regulators."

It was recognition of this fact that led to the preparation of Prunoids. Here is a remedy that is much more than a physic. Used as the physician's judgment will dictate, according to the needs of each patient. Prunoids will not only move the bowels satisfactorily without the least griping or disagreeable effect but will so stimulate the physiologic processes of the intestinal tract that evacuations will become natural and regular.

It is the notable efficacy of Prunoids in correcting intestinal torpidity and restoring functional activity of the bowels that has led so many physicians to prefer this remedy to all others for the relief and permanent correction of chronic constipation. They have learned that the use of Prunoids offers a means not alone of correcting constipation, but what is especially gratifying, of curing "the great American habit."

W. H. CARRIGAN
President

E. F. OHLMEYER
Sec'y-Treas.

The Brown Optical Co.

Optometrists

112 N. HOWARD STREET

LICENSED BY THE STATE TO EXAMINE EYES

SPINAL TROUBLE
NERVOUS DISORDERS

L. W. BULLARD, D.C.

Maryland's Pioneer Chiropractor

519 N. Charles Street
BALTIMORE, MD.

Hours:
9 to 12. 1 to 5

Phone:
Mt. Vernon 5339

Hotel Wachapreague

WACHAPREAGUE, VA.

7 Points Why You Should Spend Your Vacation at Wachapreague 7

1st—Good table.
2d—Perfect Ventilation.
3d—Comfortable beds.
4th—Excellent surf bathing.
5th—Inland waters for swimming.
6th—Boating and fishing unequaled.
7th—One Hotel on ocean front; one Hotel on mainland, waterfront. Same management. The change is appreciable.

A. H. G. MEARS

Wachapreague, - - Eastern Shore, Va.

Continental Hotel

South Tennessee Ave.

ATLANTIC CITY - NEW JERSEY

Always Open Always Ready
Phone or Write

Within one square of P. R. R. Depot, Ocean, Banks, Piers, Catholic and Protestant Churches and Bathing Grounds. Special Diet for Invalids. Resident Nurse. Seventeen years in same location. Garage attached.

M. WALSH DUNCAN
Owner and Proprietor

The Recovery from La Grippe.

Since the first appearance upon our shores of the unwelcome infectious disease known as La Grippe, the medical journals have been filled with articles advocating different methods of treating the attack itself and various complications. But little attention, however, has been paid to the important question of how to best treat the convalescent subject. Among all of the acute infections there is probably none that is as likely to leave the patient quite as thoroughly devitalized and generally prostrated, as does a sharp attack of La Grippe. For some reason the degree of prostration from grippal infection appears to be entirely out of proportion to the severity of the attack itself. This peculiarity renders it advisable and usually necessary to strengthen and support the general vitality of the patient during the period of convalescence. Complete rest, nourishing food, plenty of fresh air and stimulation according to indications are, of course, distinctly important measures. At the same time tonic and hematinic medication should not be neglected. Probably the most generally acceptable and efficient general tonic and hemic reconstituent for such patients is Pepto-Mangan (Gude), a bland, non-irritant and promptly absorbable combination of the organic peptonates of iron and manganese. This efficient blood builder and reconstructive does not disturb digestion nor induce constipation, and is readily taken by patients of all ages.

Building Up After Pneumonia.

Every physician recognizes that one of the most important things in the management of a case of pneumonia is building up the patient after the resolution of the inflammatory process.

For this purpose Cord. Ext. Ol. Morrhuae Comp. (Hagee) has been found of great dependable worth, owing to the certainty with which it charges the reduced tissues with the necessary reconstructive elements. It is a most rational therapeutic procedure to put the pneumonia patient on Cord. Ext. Ol. Morrhuae Comp. (Hagee) for by so doing the period of convalescence is shortened and the patient is restored to his normal vigor all the

FOR THE TREATMENT OF BONE DISEASES OF THE GRAVEST CHARACTER

DRUID SANATORIUM

BALTIMORE, MARYLAND

INCLUDING OSTEO-MYELITIS POTT'S DISEASE HIP-JOINT DISEASE AND ALL OTHER TUBERCULAR BONE DEGENERATION

A private sanatorium devoted to the treatment of bone diseases; including simple osteo-myelitis, and tubercular degeneration, regardless of location, extent, or duration. Many of these cases have defied both medicine and surgery, failing to respond to drugs, to the knife, to skin grafting, or to bone implantation. In fact they have reached the limbo of the incurable, with a most hopeless future.

It is just such cases we are successfully treating, and for their comfort and care we have a most pleasantly located sanatorium, modern in every detail; it is located in the residential section of Baltimore near the entrance to the world-famous Druid Hill Park.

Applications only entertained when placed through or recommended by the patient's attending physician. It will be a pleasure to correspond with all who desire further information.

DRUID SANATORIUM
BALTIMORE, MARYLAND

Eldridge C. Price, M. D.
Medical Director

Western Maryland Dairy

BALTIMORE, MD.

BACTERIAL tests show that the milk received by us primarily contains a lower average percentage of bacteria than is usual. It is then subjected to pasteurization after the most scientific and modern methods, thus giving us a distinctive product. Our hygienic plant, **No. 1117 Linden Avenue,** is at all times open to the inspection of physicians and others who are interested.

The Medical Standard Book Co.

(The Book Mart)

301 N. Charles Street, Corner Saratoga

Headquarters for **MEDICAL BOOKS**

PRINTERS Largest and Most Complete Medical Book Store South of New York

W. E. Jones Art Galleries

Etchings and Mezzotints

In Monochrome and Color

OIL PAINTINGS

330 North Charles Street

Professional Bldg. BALTIMORE, MD.

more quickly. The advantage of using Cord. Ext. Ol. Morrhuae Comp. (Hagee) is that while it possesses every remedial and nutritive quality of the plain oil, it inflicts no burden on the gastric apparatus, hence it may be given for an indefinite length of time without causing distress.

After an Alcoholic Debauch.

The physician is often called upon for relief of the marked nervous disturbance following a prolonged indulgence in alcholic liquors. The nervous system is badly upset, the stomach is disturbed and the patient is unable to perform his usual duties. In the relief of this state PASADYNE (Daniel) shows its advantages in a high degree. Possessing marked sedative properties it quickly and safely secures for the patient the rest needed and restores the nervous system to its wonted equilibrium. It may be pushed without fear of producing a depressing reaction, and its therapeutic potency insures accomplishment of the prime purpose of its administration.

PASADYNE (Daniel) is a concentrated tincture of passiflora incarnata, and is a calmative of the highest order. It is of particular value in women.

A sample bottle may be obtained by addressing the laboratory of John B. Daniel, Inc., Atlanta, Ga.

SANITARIUMS, ETC.

The Gundry Sanitarium

(ATHOL)

A Private Sanitarium for the Care and Treatment of Nervous and Selected Cases of Mental Diseases in Women.

Splendidly located, retired and accessible to Baltimore, surrounded by 28 acres of beautiful grounds. Buildings modern and well arranged. Every facility for treatment and classification.

For further information, write or telephone

C. & P. 'Phone Catonsville 78-R

DR. ALFRED T. GUNDRY, or THE GUNDRY SANITARIUM Athol, Catonsville, Md.

RIVER CREST SANITARIUM

Under State License

ASTORIA, L. I., NEW YORK CITY

For NERVOUS and MENTAL DISEASES, ALCOHOLIC and DRUG HABITUES

Home-like Private Retreat. Beautifully Located in a Large Park, Overlooking the City and Sound. Easily Accessible. Attractive. **Detached Buildings for Alcoholics and Drug Habitues.** Complete, *Modern* Equipment. Hydrotherapy, Electrotherapy, Massage, Amusements.

JOHN JOS. KINDRED, M.D., Consultant **WM. ELLIOTT DOLD, M.D.,** Physician in Charge

New York Office: **The Sydenham, 616 Madison Ave.,** Cor. 58th St.

'Phone, 1470 Plaza Hours: 3 to 4 and by Appointment Sanitarium 'Phone, 820 Astoria

REFER TO: Dr. Wm. F. Drewry, Superintendent Central State Hospital for Insane, Petersburg, Va., and others in the South.

The Richard Gundry Home

(*Established 1891*)

HARLEM LODGE, CATONSVILLE, BALTIMORE COUNTY, MARYLAND

A WELL EQUIPPED SANITARIUM for the treatment of Nervous and Mental Diseases, selected cases of Alcoholic and Opium Habitues, and the various diseases requiring the removal from the environments of home.

For rates, etc., address **DR. RICHARD F. GUNDRY** C. & P. Phone No. 86, Catonsville

References

DR. WM. OSLER, Oxford, Eng. DR. JULIUS FRIEDENWALD, Baltimore. DR. WM. S. THAYER, Baltimore.
DR. HENRY M. HURD, Baltimore. DR. NATHAN R. GORTER, Baltimore. DR. J. ALLISON HODGES, Richmond, Va.
DR. THOS. A. ASHBY, Baltimore. DR. SAMUEL C. CHEW, Baltimore. DR. WM. F. DREWRY, Petersburg, Va.
DR. J. CLEMENT CLARK, Sykesville, Md. DR. WM. S. GARDNER, Baltimore.

Arlington Sanatorium

A THOROUGHLY modern institution, devoted to the treatment of **Drug, Alcohol** and **Nervous Diseases.** The surroundings and interior of "The Arlington" are suggestive only of a modern home of refinement. Patients are treated in a strictly ethical manner. Inspection by reputable physicians invited.

Write for Booklet
"Breaking the Shackles"

Dr. C. T. SCUDDER
Medical Director

Evergreen Place and Palmer Avenue, Arlington
Phone, Arlington 175
Baltimore County, Md.

MARYLAND
MEDICAL JOURNAL
A Journal of Medicine and Surgery
Vol. LXI, No. 2 BALTIMORE, FEBRUARY, 1918 Whole No. 1197

FURTHER EXPERIMENTAL FACTS ON THE ACTION OF ELECTRIC WAVES (CORPUSCULAR RADIOTHERAPY) UPON GROWING CELLS.*

By Ernest Zueblin, M.D., F.A., C.o.P.,
Associate Professor of Medicine, University of Cincinnati, Ohio; Resident Medical Director Cincinnati Tuberculosis Sanitarium.

In the course of former experiments dealing with the action of high frequency waves applied to clinical cases[1, 2, 3, 4, 5], the question arose whether by such a treatment visible effects could be substantiated by experiments on living cells. A study dealing with the effects of high frequency waves upon growing cultures of bacteria was undertaken,[6] the result of which experiments demonstrated the possibility of inhibiting or destroying the growth of a number of different pathogenic micro-organisms.

As in my experiments a similar ionisation curve could be demonstrated, similar to that obtained in radioactive substances,[3] in the present study growing seeds were exposed within the field of electric waves. It is a well-established fact that the rays emitted by radium and the substances called radioactive have either a stimulating or checking, if not disintegrating, influence upon living propotplasm. The effect so produced on the one hand depends upon the dose applied; on the other hand it depends upon the vulnerability of the cells to such agents.[7]

This interesting scientific fact is particularly important in the therapeutic attempt to inhibit or destroy the growth of malignant cell growth. Clinically, a counter reaction succeeded the initial enthusiasm attending the first description of malignant cases treated with radium. Just as in any other domain of medical

*Paper presented before the Cincinnati Research Society, October, 1917.

progress, such a reaction exerts its sobering effect upon our therapeutic resources, and, far from rejecting all the claims as untenable, laboratory research has to add experimental facts which must clear our often hazy conceptions of therapeutic efficiency.

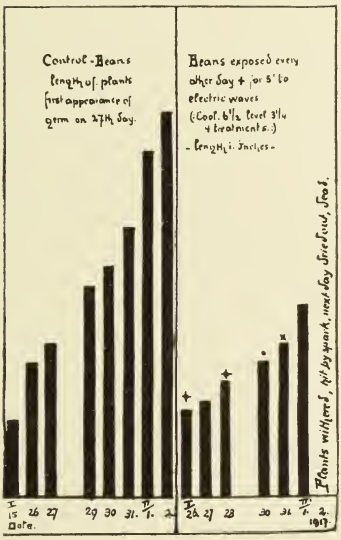
The experiments related below, though very simple and inexpensive, consisted in the following procedure: A series of beans were planted, all on the same kind of soil, placed at the same distance from the surface.[1] The control seeds were kept separate from those that were intended for treatment. But all of them received the same amount of water, daily 50cc., kept at the same temperature, under the same light conditions, except for a short time interval, when one lot of plants were moved to the treatment-room, at stated intervals below, but being brought back to the same place where the controls were kept. As in all of my experiments made, in different series, the results were similar, I will refrain from a repetition in quoting the different experiments. One example may be sufficient for demonstration.

CONTROL BEANS.

12/29-1/25th, first appearance of growth, length 1″.
26th, length 1¾″.
27th, length 2″.
29th, length 2¾″.
30th, length 3″, 1¼″.
31st, length 3½″, 2¼″.
2/ 1st, length 4½″, 3″.
2d, length 5″, 3¾″, 1½″.

Appearance of first bean in 27 days, average growth ½ inch each day in the first week. No. 2 was more retarded, appearing on the 32d day only, with an average growth of 1-3 of an inch in four days. The last bean, No. 3, reached the surface much later, and after 35 days had reached only the length of 1½ inches.

The beans, exposed every day once they had appeared over the surface, though planted on the same day, namely, on the 12/29th, were placed within the path of the "application electrodes",[1] two inches distant from the growing plant. The electric current in the primary circuit of the X-ray apparatus registered on the Cooldige scale 6½, level one position 3¼, during an exposure to the current furnished by a high-power Snook X-ray machine. The treatment was continued for the same length of time for eight days. The plants not only revealed a retarded development, notwithstanding the daily watering before the treatment was given; the small germs withered and dried out. By this and other identically conducted experiments on other series it was found, that such a strong current and waves sent through the earth, the development appeared retarded at first and finally was annihilated.


Control - Beans
Length of plants
first appearance of
germ on 27th day.
Beans exposed every
other day + for 5' to
electric waves
(Coof. 6½ feet 3½
treatments.)
- Length in Inches -
Plants without + by mark, next day thereafter, Sprouted.
I 15 26 27 29 30 31. II 1. 2
Date.
I 24 27 28 30 31 II 1 2.
1917

With such a result obtained it was of interest to watch the effects of the treatment by applying the same dose and length of application on alternate days. Until the first appearance of growth 27 days had elapsed when the first treatment was given.

The length of the plant on the

1/26th was 1⅛″.

1/27th, no treatment, length 1¼″; difference in length ⅛″.
1/28th, treated, length 1½″; difference in length ¼″.
1/30th, not treated, length 2″; difference in length ½″.
1/31st, not treated, length 2¼″; difference in length ¼″.
2/ 1st, not treated, length 2¾″; difference in length ½″.

2/ 2d, treated. Plant looked sickly and withered; whilst exposed to treatment a spark passed through, and next day the plant was limp and evidently dead; no further growth was noticed.

In the chart the differences are illustrated between the non-treated control and the plants exposed to the current action and waves.

The information gained from this experiment and confirmed by other tests, identically carried out, suggests that under the electric treatment the waves had an inhibitory action upon the development, so only a small part of the seeds developed. There was no indication that the first signs of growth were retarded at first. Compared with the untreated controls, however, there was a decided inhibition, a difference which under most favorable conditions amounted to 2¼″. On the days where no treatment was given, the greater gain in length could be noticed, whilst on the days of treatment until the next observation the growth appeared less. One might be inclined to attribute this gain on the days without treatment to the protracted stimulating action of the electric waves, but should such be the case, from the experiment with daily exposures, an acceleration should result. Such was not the case, as mentioned above. In the contrary, one must admit the possibility of a strife between nature to overcome the inhibitory influence of the electric waves. Such an attempt to balance the action was in the final outcome not successful.

With the results so far obtained one is tempted to inquire into the changes that take place in the earth, in the seed itself, chemically and morphologically. A full answer to this is not yet possible. A few remarks touching upon the problem under study are of interest. By measuring the temperature of the earth immediately before and after treatment it was found that there takes place a rise of several centi degrees, in most of the instances the difference being from 8 to 10 C°, which rise persists for a short time, once the current has been cut out. The insertion of a thermometer whilst the current is passing through, in control experiments, proved unpracticable, as the waves striking the glass bring

the mercury to evaporation, so producing a powerful ultraviolet light. Such a simultaneous display of actinic rays would be undesirable. Besides the production of heat one must consider other factors. As mentioned in former publications of mine,[1] when living and dead animal tissue is placed within the path of the electric waves, a considerable loss of moisture takes place, and perhaps such an effect cannot be excluded considering the withered and dried-out appearance of the plants after the treatment, and this notwithstanding the abundant water supply by previous and regular watering. Fontactoscopic measurements of earth treated for the same length of time and same strength of current showed, as compared to untreated control tests, a decided increase in the radio-active-ionizing properties. This action, persisting for several hours, may also account to a certain extent for the striking differences in the control and treated plants.

Furthermore, we must remember the possible action of bacteria and molds[8] which contained in the earth exert some influence upon germinating leguminose plants. If we add to this the action of ultraviolet waves upon bacteria[6] the electric waves may inhibit or destroy such physiological symbiosis, so eliminating one important factor for the successful growth of the plant. Likely our knowledge is rudimentary for a complete understanding of the changes responsible for such an inhibition. Further studies along this line dealing with chemical and histological changes induced in such treated plants will be reserved for a later communication.

As already mentioned, the presented experimental facts may have no practical bearing as yet. Personal observations with the same wave energy applied to inoperable cases of carcinoma, with the result of relieving the distressing symptoms of such hopeless cases, suggest further research along that line and will be brought forward in later publications.

The present preliminary report, though incomplete, is at least of interest for the biologist. Added to former contributions it adds a little more value to the significance of radiating wave energy upon normal and diseased tissues.

LITERATURE.

[1]E. Zueblin, *The Lancet Clinic*, Nov. 11, 1916.
[2]E. Zueblin, *American Medicine*, New Series, Vol. XI, No. 5, pp. 297-303, 1916.
[3]E. Zueblin, *Medical Review of Reviews*, Jan., 1919, Vol. XXIV.
[4]E. Zueblin, *Maryland Medical Journal*, January, 1917.
[5]E. Zueblin, *New York Medical Journal*, Jan. 1918, Vol. CVV.
[6]E. Zueblin, *Medical Review of Reviews*, under press.
[7]Quot. Von Noorden, Falta, E. Zueblin, *Maryland Medical Journal*, May, June, 1914.
[8]P. E. Brown, *Science*, Aug. 24, 1917.

INJURIES OF THE SPINAL CORD—WITH REPORT OF GUNSHOT INJURY OF THE CORD AT THE FOURTH CERVICAL VERTEBRA AND SUCCESSFUL REMOVAL OF PROJECTILE.*

By August Schachner, M.D., F.A.C.S.,
Louisville, Kentucky.

THE following case was referred to me by the family physician, Dr. Frank J. Kiefer of Louisville:

Joseph H., age 13 years, was accidentally shot by his cousin on October 5, 1912. The projectile was a .22, fired from a rifle, at a distance of about six feet. At the time of the accident the cousin was standing, and the victim seated at luncheon. The ball entered just below the malar process on the left side, ranging downward, backward and inward.

It became arrested by embedding itself in the cervical portion of the cord, at a point corresponding with the junction of the column of Goll and Burdach. In its position the long axis of the projectile corresponded with the long axis of the cord. On being shot he uttered a cry, fell from his chair and rolled up, as he expressed it, in a "ball."

He was unable to speak and lost consciousness. Directly after the accident he was removed to the Jewish Hospital, a distance of about three or four miles from the scene of the accident. On reaching the hospital his condition was one of evident shock. His skin was pale, cool and clammy. His pulse weak and collapsible.

Between the time of the accident and his being placed in the hospital bed, covering a space of almost two hours, and a distance of three or four miles, he lost and regained consciousness three times; the first time on receiving the wound, the second on being exposed to a sudden jar while carried through the hospital, and the third time as the result of handling, which his undressing necessitated. The mucous membrane of his mouth was swollen, but unbroken, and particles of food were still present. Pressure at a point in front and below the angle of the jaw on the wounded side seemed painful. He afterwards spoke of both arms and legs as feeling dead, or being unconscious of possessing arms and legs. Hyperidrosis was noticeable during the first 48 to 72 hours. This gradually ceased.

Loss of expulsive action of the bladder and bowels existed for four days, with gradual return of function, beginning on the fifth,

---

* Reprint from *Surgery, Gynecology and Obstetrics*, June, 1916, pp. 706-712.

and practically complete return by the eighth day. The loss of consciousness was transient and hardly complete. The reaction from shock began almost directly after being placed in bed and commotion ceased. The return of motion was more rapid on the right side and in the arm. Return of function in the right arm began about the eighth day and was complete in three weeks. Beginning return of function in the left arm delayed until four and a half weeks. The right leg began to improve soon after the right arm, but improvement was not so rapid in right leg as in the right arm.

During this period he was considerably annoyed by involuntary jerking in the right leg. Improvement began in the left leg eight and a half weeks after the accident. A sense of deadness and heaviness throughout the body prevailed for about two weeks and was noticeable months thereafter during exercise. The first evidences of vasomotor changes were noticeable on the second day; the left hand had a glossy, full and red appearance, with some tenderness to touch.

The left arm and leg exhibited circulatory changes, most noticeable in winter and on allowing the arm to hang. The left arm would get cold before the left leg. The heaviness of the left leg, which somewhat remains, disappears partially with exercise; the left leg "goes to sleep;" the left arm is more tired than the right, and involuntarily spasmodically extends itself. Two and a half months after the accident, spastic changes were well developed in the left arm and leg. Sticking or scratching with a pin, or stroking with a finger or finger-nail, the ulnar side of the right arm, from its lower third downward to the little finger, especially the region represented by the distribution of the ulnar nerve, and more on the palmar aspect of the hand, develops a shoulder clonus on the left side. The gunshot wound healed primarily without any unusual local or general reaction.

On the fourth day after the accident, two radiographs were made, a lateral and an anterior view. The existence of the projectile was distinctly evident, and its *precise* location was interpreted by the radiographer as being in the region of the lamina of the third cervical vertebra.

First Operation.—On the following day (fifth) in the presence of the radiographer, an incision was made to the left of the cervical spine, and the second, third and fourth cervical lamina exposed without finding the projectile. The incision was enlarged upward and downward, as far as the sixth lamina, inclusive, without avail. The radiographer, who acted as pilot, suggested a corresponding point anteriorly instead of the lamina, as the probable location.

Second Operation.—The exploratory wound having healed, on

the advice of the radiographer and surgical consultant, two weeks thereafter a second exploration was undertaken.

An incision was made along the anterior border of the sternomastoid muscle on the left side, the carotid sheath pulled aside, and the pedicle and transverse process of the third cervical vertebra exposed to view. By continuing the exploration between the carotid sheath and the plexus of cervical nerves, the opening permitted a palpation of the region of the third and fourth cervical vertebra laterally and anteriorly, with negative results.

This, like the first wound, healed primarily. Following this operation, there was an improvement in the entire condition, due to the gradual subsidence through time of the effects of the undestructive element of the injury. This improvement continued until the latter half of December, two and a half months after the injury,

Continued observation from time to time, between December, 1912, and April, 1914, confirmed the opinion of a progressively destructive lesion and the necessity of further surgical efforts.

Third Operation.—Another set of radiographs was prepared, and with the aid of a stereopticon, it was definitely settled that the projectile was within the spinal canal and at a point corresponding to the fourth cervical vertebra. On April 14, 1914, an incision was made over the spine of the second to sixth, inclusive, cervical vertebra, and the lamina of the third and fourth cervical vertebra removed. Nothing abnormal was noticeable on opening the spinal canal, either by inspection, palpation or the use of the probe. The membranes were opened and a profuse flow of cerebrospinal fluid followed. This was practically controlled by packing off the canal with gauze.

The location of the projectile was now apparent beneath the surface and to the left of the posterior median fissure. The overlying cord structure was incised longitudinally with a cataract knife down to the projectile, and the latter carefully extracted. As the openings in the membrane were almost closed, packing, that had been placed to control some venous bleeding from the side of the bony opening, became dislodged and at once the wound filled with blood that continued to well over its edges. Efforts to control this through forceps and packing were only partly successful.

The condition of the patient, which had been entirely satisfactory, now became so critical, that the entire wound was rapidly packed with gauze and a few silkworm sutures inserted to keep this in place.

He was removed to bed in profound shock, from which he reacted after the lapse of five or six hours. The packing was allowed to remain until the end of the fifth day. During these

five days the discharge of cerebrospinal fluid was sufficiently free to necessitate the change of the external dressing from once to twice a day.

At the end of the fifth day he was removed to the operating-room, and the wound edges from the skin surface to the bottom infiltrated with a half per cent. solution of novocaine. Under this local anaesthetic the packing was removed, and the remaining opening in the membrane sutured and the wound closed. All of this and the primary healing of the wound was accomplished without any untoward effect. He left the hospital at the end of three weeks, wearing a collar from the chin to the sternum, consisting of several layers of gauze, and three thicknesses of adhesive plaster. This was discarded two weeks later. The after-treatment consisted in massage, electricity and the correction of the left hand.

The drop-wrist, the extended first phalanges, and the flexion of the second and third phalanges were brought into a straight line and held thus through a splint and plaster dressing for about eight weeks, with a distinct improvement in the condition.

Present Condition.—Fifteen months after the third operation or the removal of the projectile from the cord. The bladder and bowels are normal. Sensation is diminished on the right as compared with the left side in the legs, except in the femoral regions, where they seem alike. The same applies to the thermic test. Left-side arm and leg suffer more from cold when exposed than right. Cyanosis and coldness of left hand absent since removal of projectile, as well as the sensation of pins and needles or crawling like ants. Left shoulder clonus developed by sticking lower ulnar region on right side with a pin, but less so than formerly. Spastic paralysis of the left hand consisted of extension of the first phalanges and the flexion of the second and third, giving the hand a clawing appearance.

MEASUREMENTS OF LEGS.

	Inches
Right leg at calf	12
Right thigh	18.25
Left leg at calf	11.5
Left thigh	17

MEASUREMENTS OF ARMS.

	Inches
Right arm at middle	9
Left arm at middle	6

Measured about 2 inches below the elbow, there was a difference of 3 inches in favor of the right. This increased difference

in the measurement of the upper extremity, over the lower, may be explained somewhat on the ground of the difference in use. He was better able to use his left leg than he was able to use his left hand. The use of the left arm showed little restriction over the right, but the same was not true of the left hand, and, therefore, there was not as much use made of the left side as of the right.

The spastic condition of the left hand, as already described, interfered with his picking up and handling small objects; large ones could easily be cared for. The thumb was the most useful of the fingers on the left hand, and the usefulness diminished as we passed from the thumb to the little finger. This diminution was especially noticeable in the ring and little finger.

The left arm at rest hangs by the side, suggesting limpness, and the left foot shows a slight eversion, little unsteadiness and tendency to drag. The general picture suggests that of hemiplegia in a mild degree. He was unable to raise the left arm as high as the right, but the ability to raise the arm is very much improved since the last operation. Plantar reflexes increased on the left over the right side; knee reflex increased on the left and diminished on the right. He says the right side still has an indescribable abnormal sensation.

FREQUENCY.

Frequency of gunshot injuries of cervical vertebra are, according to Hoffmann, as follows:

In the Civil War they amounted to 0.25 per cent. of all gunshot injuries; in the Franco-Prussian War, 0.36 per cent.; in the Greco-Turkish War, 0.39 per cent.; in the Spanish-American War, 0.55 per cent. So far as gunshot injuries of the cervical region, as compared with gunshot injuries of other spinal regions. Quene gives the following figures: Among the French during the Crimean War the cervical vertebra 49 or 31.4 per cent.; thoracic region, 74 or 48 per cent.; lumbar region, 31 to 19.9 per cent. In the Franco-Prussian War, according to Graf and Hildebrandt, in 367 gunshot injuries of the vertebra, 93 were in the cervical region; 134 in the thoracic region, 62 in the lumbar region, 78 in the coccyx. In the Civil War, according to Otis, there were 382 gunshot injuries of the vertebra; 91 in the cervical region, or 23.5 per cent.; 136 in the thoracic region, or 35.8 per cent.; 149 in the lumbar region, or 39 per cent.

LOCATION, NATURE AND EXTENT OF SPINAL INJURIES.

Through a careful examination of the segmental disturbances, motor and sensory, coupled with the roentgen rays, the location of the projectile, and to some degree the osseous injuries in the majority of cases, can, with reasonable certainty, be determined.

When it comes to estimating the nature and extent of injury to the cord, it is a different matter altogether. Here a study of some of the accessible cases in the literature, notably those of Allen, Winslow, Murphy, Muller, Butt and others, readily convinces one that the clinical data may be so misleading as not to be able to determine, with reasonable certainty, as to whether we have a destructive lesion with anatomic cord changes, or whether we have a case simulating a destructive lesion but clearing up with time; and vice versa, cases that in the beginning did not seem serious, but grew serious with time, days or weeks, and in some progressively growing worse until extensive paralysis, or death ended the scene—Henle, Barker, Murphy and others.

While a carefully prepared set of radiograms, stereoptically studied will supply valuable data as to the course of the projectile, and the probable nature of the spinal injury, and from which valuable conclusions as to the possible existence and probable extent of cord injuries can be drawn, it is pardonable to emphasize the warning that the diagnosis, however carefully made, is frequently misleading. It is an easy matter to find in the literature reports from reliable sources of quite a number of cases, which, through time, operation or autopsy, were shown to be in point of cord injury, just the opposite to that which in the beginning they were thought to be.

CONCUSSION.

The term "concussion of the cord" is one about which there is a considerable difference of opinion, accepted by some and rejected by others. The term may be said to mean the impairment or loss of function without the existence of gross anatomic cord changes. Muller says:

Stacks of literature have been written about it, and many an expert witness has been paid a fee for testifying to its existence. But "to the impartial observer the conviction must be inevitable that the weight of evidence is against the existence of the condition" (Bailey). Many of the statements in favor of the state of concussion have been derived from the finding by the surgeon at operation of an apparently normal cord, but we now know that tremendous damage may be done to the cord, the white and gray matter being shaken up together and indistinguishable, or one driven like a wedge into the other, and yet no visible external change is discernible. The comparison with the numbed and tingling nerve or the concussion is not a true one, as the surroundings of the cord are entirely different, and the symptoms of its injuries never transitory.

Those rejecting the term do so mainly on anatomic grounds, the size of the cord as compared with the spinal canal, its curva-

tures, the presence of cerebrospinal fluid, and its ingenious suspension through the dentate ligament and nerve-roots.

M. S. Barker in his paper "Traumatic Hematomyelia" affords satisfactory explanation of many of these cases. His classification includes four varieties: local, profuse local, disseminated and profuse disseminated.

For many decades it was one of that group of unknown conditions (except symptomatically) known as railway spine. How many conditions were contained in this group is not known, but it is certain that one of the most important of the group was removed from it when hematomyelia was identified and placed in a category by itself. We now find ourselves facing a new danger that nearly all cases, that were once known as railway spine, are now placed, or in danger of being placed in the category of hematomyelia (Barker).

COMPRESSION OF CORD.

Compression of the cord may be due, primarily, to the presence of a projectile or other substance, or a portion of a vertebra impinging upon the cord. Secondarily, the compression may be due to edema or hemorrhage. The effects of pressure on the cord in rare cases may be greatest on the side opposite the lesion (Hunt and Woolsey). According to Bruns, the segmental root pains, indicating the level of the lesion, are due to compression of the segment from which the root springs and not to pressure upon the root in its intraspinal course.

The hemorrhage may be extradural, intradural hematorrhachis, or both extra- and intradural, or into the cord substance, hematomyelia. When the hemorrhage is into the cord substance it may give rise to a cyst, which is responsible for a traumatic syringomyelia.

When we suspect a hematorrhachis, a lumbar puncture will confirm the existence of the same, as well as relieve if practiced early, the pressure within the space. Twenty to 40 cubic centimeters of fluid should be drawn off.

Hematomyelia, as a pathologic entity, is of comparatively recent origin, and, according to Thorburn and others, is underestimated in its frequency. Six out of his 21 cases of injury to the cervical spine showed hemorrhage into the cord, and unaccompanied by any apparent injury to the column itself.

Thorburn's and Parkin's cases of hematomyelia all occurred in the cervical region, and at about the same area. This was partly attributed to acute flexion. That other causes than flexion are responsible is proved by the number of cases in which hematomyelia occurred without acute flexion. It has been pointed out that the hemorrhage selects the gray matter of the cord over the white, because the vessels are less firmly supported in the gray

matter. As the gray matter is most predominant in the cervical region, it is the most favorable region for its occurrence.

Cushing believes that the possible existence of a special vessel, or vessels, such as Charcot's artery in the brain, is the best explanation of its occurrence in one special area of the cervical region. Since its occurrence in other regions, unless attended with some gross spinal lesion, is of comparative rarity, the lower cervical region, primarily the eighth cervical, up to the triceps level, is considered the favorable region for hematomyelia (Cushing, Berkley, Hoch, Lloyd, Schmaus and others). Barker has pointed out that when hemorrhage does occur in the white matter, its progress is hindered by the barrier which the axones offer.

DESTRUCTIVE LESIONS OF CORD.

These lesions may be due to the initial injury or to hemorrhages and changes that follow secondarily. They may be limited or extensive in their scope. They may be early or late in their manifestation, and they may be stationary or progressive in character. The progressive character may be dependent upon a continued irritation due to the presence of a foreign substance as the projectile, or an irritation, edema or a degeneration due to a traumatic myelitis, or secondary changes following a hematomyelia. The degree may vary from that of a contusion to a complete transverse lesion involving the destruction of a limited or extensive area of the cord.

The practical side of destructive lesions depends upon the extent of the destruction. Upon this rests the question involved in the surgical treatment; namely, as to whether or not operative interference is indicated.

With what certainty can we determine the existence of a complete transverse lesion?

According to Thomas, the factors in drawing the conclusion that there is a complete transverse lesion of the cord are:

1. Complete paralysis usually of the flaccid type.

2. A complete loss of sensation in all its forms.

3. Absent reflexes, especially the knee-jerk, while the planter reflex, on the contrary, is often retained.

4. Complete paralysis of the bladder and rectum, with priapism.

5. Vasomotor paralysis, with severe sweating in the paralyzed parts.

6. And most important, absence of variations in the symptoms.

7. Absence of irritative phenomena, such as pain.

Walton, who has studied fractures of the spine, states there are no symptoms which establish (otherwise than through their persistence) irremediable crush of the cord. While total relaxed paralysis anesthesia of abrupt demarcation, total loss of reflexes, retention, priapism and tympanites, if persistent, point to complete and incurable transverse lesion, the onset of such symptoms does not preclude a certain degree, at least, of restoration of function. He also states that we have no infallible guide to the extent of the lesions.—*Loc. cit.* Burrell.

TREATMENT OF SPINAL INJURIES.

A careful consideration of the spinal injuries, as they are revealed in literature, justifies one in emphasizing the importance of not *too readily* dismissing injuries of the back as sprains; and sprains of the back that persist should be carefully examined, and, if necessary, X-rayed.

No effort should be made to elicit crepitus in injuries of the cervical region. This should be replaced by the roentgen ray. In the first-aid handling of the subject suspected of spinal injury, it is desirable to exercise care and to keep and transport them as much as possible in the position in which they were found, until more definite information, as to the nature of the injury, is obtained. It seems needless to say that an air or water bed and the catherization under the strictest precautions should be carried out. Shock, which is rarely absent, is the first indication.

The roentgen ray, spinal puncture, and a careful neurological study is the diagnostic triad upon which we are dependent. The radiogram should be studied stereoptically. The spinal puncture will not only afford data as to the existence of a hematorrhachis, but, through the withdrawal of fluid, will relieve the pressure. It will not permit of a differentiation between a hematorrhachis and a hematomyelia. The symptom-complex of both is similar. In meningeal hemorrhage the chief stress is laid upon the irritative phenomenon, acute and immediate spinal pain increased by spinal movement. Radiating pains from the supposed pressure of the blood on the spinal root and referred over their distribution is characteristic, and on it Kocher lays especial stress (Cushing).

In intramedullary hemorrhage the paralysis is frequently of the Brown-Sequard type, due to unilateral compression, and may increase in keeping with the hematomyelia. The duration of symptoms in hematomyelia is longer in hematorrhachis, and, owing to the tendency to a syringomyelia, may leave permanent traces.

The examination of the spinal fluid will set at rest the question of infection, should this be suspected. In this connection, the

suggestion of Woolsey, that the investigations of Crowe be utilized, is worthy of trial. Crowe developed the fact that urotropine is eliminated through the cerebrospinal fluid, and the maximum of elimination is reached in from one-half to an hour after is administration. Woolsey, therefore, suggests the giving of 15 grains before the operation and its continuance for several days, giving 30 grains or more every 24 hours, thus inhibiting the growth of organisms and the dangers of meningitis.

It is difficult to avoid the conclusion that an accurate estimate of the cord destruction is frequently impossible. If this fairly represents the status, is it not proper to lay down the axiom, "When in doubt, explore?"

Such a course is only in keeping with the trend of present surgery in serious conditions in other regions, whenever doubt exists. The fact that laminectomy is not as simple as most other explorations, should, in competent hands, not be a sufficient bar.

The development of surgical technique should naturally carry with it a growing increase in its application. The rules in vogue one or two decades ago should hardly hold, or at least with the same force today as they did then. Furthermore, such a position is supported by operative results as follows:

C. E. Black reported a collection of 552 cases taken from the literature. Of the cases operated on, 49.2 per cent. recovered and 40 per cent. died; of those not operated on, 25 per cent. recovered and 65 per cent. died. The fracture cases gave the following figures: the mortality of operation in the cervical region was 71 per cent.; without operation, 85 per cent.; in the dorsal region, 48 per cent.; without operation, 64 per cent.; in the lumbar region, 26 per cent.; without, 50 per cent. Many of these cases are old, and before the technique of aseptic surgery reached its present perfection.

Even as long ago as 1898, Prewitt tabulated 49 cases of gunshot wounds of the spine treated since the aseptic era. Of this number, 24 were operated on, with 13 deaths; and 25 were not operated on, with 17 deaths. Haynes collected the cases of gunshot injury from the date of Prewitt's paper, up to 1906, and found a mortality of 42.5 per cent. in the operated cases, and 69.25 per cent. in those not operated on (Muller).

Nowhere is timeliness more important than in spinal surgery. After the subsidence of shock and the adjustment of the nervous system to a condition where some conclusion can with more safety be drawn, the earlier the operation is performed, the better.

Degeneration is by many supposed to begin about the fourth day. Cases where a careful study justifies the opinion of a complete transverse lesion, or where it is believed to be a contusion or hematomyelia, operation is contra-indicated. In the first in-

stance it is generally considered hopeless, except in the caudal zone, and in the other instance it is useless. Where, however, the evidence is not absolutely convincing, especially after a cautious delay and reasonable doubt still exists, exploration should prevail.

If modern surgery can lay claim to any achievement, it is the elimination of doubt, through cautious exploration, and the fact that some exploration can be shown to be useless or even a few fatal, does not, in the writer's judgment, invalidate the broad application of the rule.

Even late operations are not without their advantages, as the writer's case proves. It is difficult to disprove that advantages did not attend, through decompression, many of the explorations in which the surgeon did not make any definite move after the cord was exposed.

The ultraconservative views on spinal operations have been presented by Allen (3).

The question of a transverse lesion, with complete destruction of the cord and the possibility of its regeneration through myelorrhaphy, is an open one. The claim that evidences of at least some regeneration exist is made by those who have practiced the procedure; namely, Briggs 1898, Hart and Stewart 1902, Fowler 1905, Shirres 1905 and Estes of Bethlehem, Pa.

On the other side, the possibility of regeneration is doubted or denied, except in the caudal zone, by Muller, Murphy, Thompson, Krause, Crumston and others.

Ramony Cajal and Marinesto have demonstrated that repair does not occur in myelorrhaphy. These observers only encountered neurofibrille, having a very irregular course, and composed of amyelinic fibers, and hardly any of them passed through the cicatrix; therefore, histologically there is no medullary regeneration, so that the case recorded by Stewart and Hart remains still unexplained (Crumston).

BIBLIOGRAPHY.

1. Cushing, H. W. Hematomyelia from gunshot wounds of the spine. Am. J. M. Sc., cxv, 654.
2. Hoffman, Adolph. Zur Klinik und Behandlung Der Halswirbelschüsse. Deutsche Ztschr. f. Chir., xcii, 537.
3. Allen, A. R. Injuries of the spinal cord. J. Am. M. Ass., 1. 941.
4. Murphy, J. B. Surgery of the spinal cord. J. Am. M. Ass., v. 48, 765; also, Surg., Gynec. & Obst., 1907, iv, 385.
5. Henle, A. Traumatische Erkrankungen der Wirbelsäule. Arch. f. klin. Chir., lii, 1.
6. Barker, M. R. Traumatic hematomyelia. Ann. Surg., Phila., xlvi. 678.
7. Mixter, S. J., and Chase, H. M. Operation in spinal cord injuries. Ann. Surg., Phila., xxxix, 495.
8. Winslow, Randolph. Complete transverse destruction of the spinal cord from pistol wound, without penetration of the spinal canal. Tr. South. Surg. & Gynec. Ass., 1910.
9. Harte and Stewart. Phila. M. J., 1902, June, 7.

16. Burrell, H. L. Fractures of the spine. Ann. Surg., Phila., xlii, 481.
11. Fowler, G. R. A case of suture of the spinal cord following gunshot injury involving complete severance of the structure. Ann. Surg., Phila., xlii, 507.
12. Thoburn, Wm. Contribution to the surgery of spinal cord. Brit. M. J., 1894, i, 1346; Manchester Med. Chron., 1892, xvi.
13. Hahn, E. Ueber Ruckenmarks Chirurgie. Deutsche Ztsch. f. Chir., 1902, lxiii, 426.
14. Derby, R. Gunshot injury of the spinal cord. Ann. Surg., Phila., lxi, 686.
15. Kocher, Theo. Die Verletzungen d. Wirbelsäule zugleich als Beitrag z. Physiolog. d. menschlichen Rückenmarks. Mittl. a. d. Grenz. d. Med. u. Chir., 1896, i, S.
16. Cumston, Chas. G. Gunshot wounds of the spine. N. Y. M. J., 1914, Oct. 17.
17. Pilcher, L. S., and Onuf, B. Perforating gunshot wound of the cervical portion of the spinal cord. Ann. Surg., Phila., xxxviii, p. 812.
18. Muller, G. P. Laminectomy for injury and tumor of the spinal cord. Ann. Surg., Phila., liii, 754.
19. Prewitt, Theo. F. Gunshot injuries of the spine, with report of a case. Ann. Surg., Phila., xxviii, 187.
20. Hunt and Woolsey. A contribution to the symptomatology and surgical treatment of spinal cord tumors. Ann. Surg., Phila., lii, 289.
21. Parkin, Alfred. Seven cases of intraspinal hemorrhages. Guy's Hosp. Rep., 1892, lxviii.
22. Barkley. Syringomyelia. Brain, 1890, xii.
23. Crowe. Johns Hopkins Bull., 1909, xx, Apr.
24. Thomas, J. J. Boston City Hosp. M. & S. Report, 1900.
25. Walton, G. L. J. Nerv. & Ment. Dis., 1902, Jan.
26. Coley, Wm. B. Bullet wound of spinal cord. Ann. of Surg., Phila., lvi, 69.
27. Shirres, D. A. Regeneration of axones of spinal neurones in man. Montreal M. J., 1905, xxxiv, April.
28. Krause, Fedor. Chir. Gehirns u. Ruckenmarks. vol. ii, p. 817.
29. Thompson, James E. Tr. Tex. State M. Ass.
30. Butt, A. P. Destruction of the spinal cord by molecular vibration. Surg., Gynec. & Obst., 1915, xx, 486.

Book Reviews.

DISEASES OF THE SKIN. By Richard L. Sutton, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine. With 833 illustrations and eight colored plates. Second edition, revised and enlarged. St. Louis: C. V. Mosby Company, 1917. Price, $6.50.

The volume, of about 1000 pages, gives a most favorable impression. Its text is most admirably arranged and readable. It has a wealth of admirable illustrations of helpfulness to the student and practitioner—illustrations which illustrate, with an appeal not to the prurient, but to the scientific in the reader. There is a large array of the rarer and more confusing ailments, and a very careful and exhaustive discussion of the old-timers.

Due consideration is given to the tropical ailments which we have gathered in with the annexation of the Spanish colonies.

In the tabulation of skin diseases one is struck by the evident fact that shockingly little is known of the causation of familiar diseases of the skin. "Unknown," "possibly," "probably," cover half of them. It is very clear that we shall never have an intelli-

gent classification until we leave the clinical appearance and get down to either the agent or the underlying cause.

In considering treatment the author seems to us to be a little too modern and up to date for the best interests of the practitioner. Some of the older books gave the doctor a very thorough equipment with all sorts of remedies, among which even the doctor far from X-rays might very safely hope to find a remedy. It may be that vaccines and electricity will solve the great problems of skin disease, but we cannot afford yet to trust mainly to them.

The book is fine; but we think it would be better if, in treatment of scabies, for instance, a statement were given of the method used by a hospital which has a routine treatment for the hundreds of cases which apply, and other suggestions were clustered around this.

Medical Bacteriology. By John A. Roddy, M.D., Associate in Hygiene and Bacteriology, Jefferson Medical College. With 46 illustrations, of which 8 are printed in colors. Philadelphia: P. Blakiston's Son & Co. Price, $2.50.

Some sixty pages are devoted to general considerations, classification, culture media and methods.

In about one hundred pages the author takes up each pathogenic variety, describing its life and activities and giving a brief statement of the disease processes in which it takes part, with its detection and valuable suggestions of a practical clinical value.

A large part of the book is devoted to directions concerning the examination of water, milk and other fluids and solids.

There is a chapter on the determination of the germicidal power of chemical disinfectants; one on bacterial vaccines; one on therapeutic sera; one on fixation tests.

The book seems to us excellent. The only things we feel disposed to criticise are the horrid rabbit pictures, which seem to us to elucidate nothing. One can get from war movies all the disagreeable pictures he wants to see without buying a gallery of vivisection horrors under the covers of a bacteriological handbook. We hope that future editions will leave out this one blemish of the work.

Diseases of Women. By Harry Sturgeon Crossen, M.D., Associate in Gynecology, Washington University Medical School. Fourth edition, revised and enlarged, with 800 engravings. St. Louis: C. V. Mosby Company, 1917. Price, $7.50.

Of this excellent book we have only good to say. It is most attractive from every point of view. The printers and publishers

have evidently sought to make it a standard of fine work, the illustrations in themselves are an education in every detail of diagnosis and technique, and the information conveyed by the text is clear, concise and both up to date and cautiously chosen from the great mass of often ill-digested information with which medical literature is flooded. The author has a rare insight into the minuter needs of the learner in medicine, and his patience in tracing step by step of each gynecological process, whether diagnostic or operative, commends him rarely to our respect and affection.

His scientific attitude is well shown by his valuation of curative serums. In spite of confessed failures in the vast majority of applications of certain of these remedies, he still recommends their use in chosen cases, because sometimes they have seemed to him to be of decided benefit. He endeavors to direct the student in choice of cases, and here, as always, specifies exactly what is to be done.

The illustrations are added one after another on the same diagnostic or operative point, from the work of the author or of earlier writers, as if there were a determination that the student should understand that point if it took a whole book to make it plain.

Besides the ordinary subjects treated, the volume gives a very interesting chapter on "The Internal Secretory Glands in Relation to Gynecology," with their therapeutic application. This is from a medical friend who took charge when the author was called to the war. It suggests facts which, if confirmed, will revolutionize a large portion of medical gynecological therapeutics. There are chapters also on After-Treatment and Medico-Legal Points.

The Surgical Clinics of Chicago. October, 1917. Volume I, No. 5. With 84 illustrations. Published bi-monthly. W. B. Saunder Company, Philadelphia and London. Price, per year, $10.

It is pleasing to learn from the first paper that the majority of tumors of the breast are now known to be benign, although the best treatment even for these is to have them out.

Apropos of breast tumors, there is a report and operative cure of an affection of the virgin breast which seems never before to have been noted. This young virgin, as her breasts grew, found that one bulged queerly in the center. The whole mammary gland had prolapsed through a deficiency of the fascia, whose edge could be felt as a rim at the base of the prolapse about four centimeters from the center. The gland with nipple could be pressed in through this ring like a hernia, returning when pressure ceased.

Another fine paper is on the cure of elephantiasis of the leg (occuring after an operation) by running subcutaneous silk threads up the leg.

There is a paper showing cure of varicose veins of the leg by multiple excision, the Mayo vein stripper, and spiral skin cuts round the leg. There are several papers on appendicitis, especially one on the early diagnosis and treatment.

These and others give the number a high standing for valuable clinical material.

HANDBOOK OF PHYSIOLOGY. By W. D. Halliburton, M.D., Professor of Physiology, King's College, London. Thirteenth edition (being the twenty-sixth edition of Kirkes' Physiology). With nearly 600 illustrations in the text, many of which are colored, and three colored plates. Philadelphia: P. Blakiston's Son & Co. Price, $3.50 net.

This book has so long been a standard, and has embodied in it the work of so many authorities as physiology unfolded itself, that we do not feel obligated to pass upon its merits at this late date.

It has had one of the most remarkable histories of any textbook with which we are acquainted. It has been since 1896 under the charge and embodied the personal experience in this department of Professor Halliburton, whose work has been so acceptable to the profession that it has in his hands passed through thirteen editions.

Before that date, however, it had a long career under other editors and authors, passing in fifty-one years through another thirteen editions. It began as an embodiment of the lectures of Mr. James Paget (afterwards Sir James Paget) and continued during the first part of its career to represent the teachings of St. Bartholomew's Hospital.

The present edition brings the subject up to date, preserving that clearness and appreciation of the student's needs which has won it so much popularity.

The publishers' work is excellent, and the book has a succinct way of stating the facts without dryness, which will soon win the reader's confidence and interest.

MARYLAND MEDICAL JOURNAL

NATHAN WINSLOW, M.D., *Editor.*

Associate Editors:

THOMAS R. BROWN, M.D.
HUGH H. YOUNG, M.D.
RICHARD H. JOHNSTON, M.D.
JOSE L. HIRSH, M.D.
A. SAMUELS, M.D.

BALTIMORE, JANUARY, 1918

DEMOCRACY AND SANITATION.

DEMOCRACY in its highest forms of organization is on trial before the world. Is it strong enough to control men? Is it adaptable enough to meet the myriad problems of advancing civilization in a wise and sympathetic manner?

Can the world ever become, be made, *safe for democracies?* Not temporarily safe, nor delusively, but permanently and really safe?

This new problem of civilization we are now engaged in proving to be answerable in the affirmative is in the political sphere. But after this has been proven there will still be testings in other spheres which must be made—in the sphere of morals, in the sphere of economics, in the sphere of sanitation. Can democracy, without losing that respect for the wishes of the individual citizen which underlies it, permanently and efficiently stand between the citizen and those foes which from the beginnings of history have undermined and destroyed every great civilization that has appeared upon earth? And even if destruction is prevented this will not suffice. Our civilization must not only survive, but go forward to the highest possibilities of which man is capable.

It has long been a problem before the medical mind whether the highest degree of sanitary efficiency can be obtained and maintained in large communities under popular government. This certainly cannot be done under autocracy, for autocracy in large communities means an uncivilized proletariat, and unintelligent co-operation of the masses is a self-contradiction.

In great emergencies, through its military arm, our own democracy has in a number of instances measured fully up to high de-

mands of sanitation. After proving in Havana what it could do, if untrammeled, against ancient diseases in the very citadel of their power from which they had gone forth over the world in murderous epidemics, the hygienic branch of our Government attacked at Panama the problems which had wrecked all previous canal-building efforts, and, mastering them, is said to have made that pest-hole one of the most wholesome places on earth. Moreover, the sanitary autocrat who accomplished this miracle is said to maintain that by similar methods it is possible for man to make the tropics the most healthful and populous regions of our globe.

At home, meanwhile, under the shelter of popular control, we have seen sanitation advance with incredible slowness, baffled by opposition of an unappreciative public, retreating before resistance of individuals, stinted for funds, limited by insufficient and inefficient personnel. The sacred right of the individual to do things wrong, which is by many believed to be a foundation-stone of civil liberty, on every hand baffles intelligent handling of our greatest sanitary problems. The highest sanitation is not yet seriously attempted, as proven by the fact that schools for training sanitarians are practically unknown. There is no civil profession of sanitation as yet.

It is not unbelievable that some day a city administration shall be elected which shall choose the best-equipped sanitarian attainable and request him to draw up a plan for putting our home city into first-class sanitary condition; which, after considering his plans, shall say to him, "Go ahead and clean up Baltimore along these lines. We will furnish you the money specified, and we will make it hot for anybody who attempts to obstruct your work. All assistance necessary will be provided. You will retain office until you have accomplished these things outlined by you."

There is nothing in such action contrary to common sense and sound economy, and nothing contrary to democratic principles. Under such action every contagious tubercular patient could be found and made harmless within a year, every pest-hole located, every dangerous food supply controlled.

We deny that this is a pipe dream. Democracy is learning a great deal from this tremendous war and developing adjustments to necessity which before seemed impossible. Our people have been driven to arms as much by remote certainties as by present necessities. There has been a deliberate, yes, swift, response to our leaders' demands which has astonished our enemies. They did not believe that a hundred million comfort-loving people would come and ask for conscription in warfare across the ocean. They did not believe that this quintessence of independence would submit to restrictions of food, fuel and business for the general good, and obey the restrictions to the dot, of themselves, and at the abrupt command of a civilian suddenly clothed with autocratic power for his work. They do not understand how the people can delegate autocratic powers for special purposes without losing control; but our people know that they can, for after our Civil War those who had acted autocratically, often overriding the Constitution itself, returned quickly to private life and, side by side with their late enemies, strove to re-establish democracy on a firmer basis than before.

Our citizen-soldiers will return from the battlefields with a truer knowledge of the importance of sanitation than ever before and with a more willing response to sanitary orders. Every one of them has been vaccinated against smallpox and against the typhoid group, while many have had similar protection against possible tetanus. Sanitation will have a practical and a business value to them, which it lacked before. The value of quarantine, too, will have been brought home to their thought.

Our health officials at home should awake to the new era and begin to demand a more respectful hearing. They should expect a readier response to sanitary appeals, and resent more earnestly the old thwartings of their measures for public protection. Our people will never again be sunk in the same indifferent selfishness to public needs as before they undertook this great defense of democracy.

Medical Items.

The following Maryland men, officers of the Medical Reserve Corps, have received their orders to report for duty:

To Baltimore, Md., Johns Hopkins Medical School, from duty as contract surgeon, Lieut. Lewis H. Weed, Baltimore.

To Camp Beauregard, Alexandria, La., base hospital, from Fort Oglethorpe, Lieut. Julie R. Rolenson, Baltimore.

To Camp Dodge, Des Moines, for duty, from Fort Des Moines, Major Frank Martin, Baltimore.

To Camp Joseph E. Johnston, Jacksonville, Fla., as adjutant of the base hospital, from Camp Hancock, Lieut. Irving K. Lovett, Baltimore.

To Fort Oglethorpe, for instruction, Lieuts. Claude C. Kelly, Theodore S. Moise, John C. Norton, Clarence M. Reddig, Harry E. Wilson, Baltimore; Wilmer M. Priest, North East; Hugh R. Spencer, Parkton; Milfert W. Myers, Taneytown.

To Fort Slocum, N. Y., for duty, from Fort Ethan Allen, Lieut. Antone C. Sorensen, Baltimore.

To New York City to inspect the Neurological School, thence to Montreal, Quebec, Toronto, Ontario and Winnipeg, Manitoba, Canada, for duty and on completion to his proper station, Capt. Charles Bagley, Jr., Baltimore; for intensive training in his specialty, from Baltimore, Lieut. Henry E. Austin, Baltimore.

To Washington, D. C., for duty in Aviation Section, Signal Corps, from Millington, Capt. Compton Wilson, Friendship.

To his home and honoraly discharged, Major A. Cotton, Baltimore.

To Albany, N. Y., for duty, Lieut. Daniel G. Smith, Baltimore.

To Boston, Mass., for duty, and on completion to his proper station, Major James Bordley, Baltimore.

To Camp Lee, Petersburg, Va., base hospital, from Boston, Lieut. Arthur M. Bacon, Baltimore.

To Camp Meade, Admiral, Md., base hospital, Lieut. Benjamin R. Brumbaugh, Denton.

To Camp Sheridan, Montgomery, Ala., base hospital, Capt. Henry C. Reik, Baltimore.

To Fort Oglethorpe, for instruction, Lieuts. Joseph Salan, Howard H. Stansbury, Baltimore; from duty as a private at Camp Meade, Lieut. Maurice Feldman, Baltimore; from Fort Sam Houston, Major Nathan Winslow, Baltimore; from New York City, Lieut. Allen D. Lazenby.

To New York City, New York Post-Graduate Medical School, for instruction in urology and dermatology, Lieut. Austin H. Wood, Baltimore.

To Camp Greene, Charlotte, N. C., for duty, from Camp Hancock, Lieut. Patrick F. McGuire, Baltimore.

To Camp Meigs, Washington, D. C., for duty, Lieut. Ralph S. Stauffer, Hagerstown; from Camp Meigs, Lieut. Ira C. Tyndall, Berlin.

To Camp Sevier, Greenville, S. C., for duty, from Fort Barrancas, Lieut. Richard E. Yellott, Fallston.

To Camp Wheeler, Macon, Ga., for duty, from Washington, D. C., Lieut. Edward S. Beasley, Baltimore.

To Fort Oglethorpe, for duty, from Evacuation Hospital No. 4, Fort Oglethorpe, Capt. Edward E. Lamkin, Vienna. For instruction, Lieuts. Alexander M. Evans, Hugh C. F. Gill, George E. Peirce, Baltimore; Ira Burns, Havre de Grace; Francis H. Jameson, Newport; Henry A. Naylor, Pikesville; Frederick N. Henderson, Rockville.

To Rockefeller Institute, New York, for instruction, and on cimpletion to Hoboken, N. J., for temporary duty, from Fort Riley, Major Don J. Peters, Baltimore. For instruction and on completion to Bellevue Hospital, New York City, for instruction and on completion to his proper station, from Camp Sheridan, Lieut. Eugene H. Hayward, Baltimore.

To his home and the inactive list, Major Clement A. Penrose, Baltimore.

To his home and honorably discharged on account of being physically disqualified for active service, Lieut. John G. Alexander, Baltimore.

To Army Medical School, Washington, D. C., for duty, from New York City, Lieut. Robert S. Cunningham, Baltimore.

To Camp Jackson, Columbia, S. C., base hospital, Capt. Andrew J. N. Reik, Baltimore.

To Camp MacArthur, Waco, Texas, for duty, Lieut. Daniel of St. Thomas Jenifer, Towson.

To Camp Travis, Fort Sam Houston; Camp Bowie, Fort Worth, Texas; Camp Shelby, Hattiesburg, Miss.; Camp Jackson, Columbia, S. C., for instruction, and upon completion to his proper station, Major William H. Welch, Baltimore.

To Edgewood, Md., U. S. Milling Plant,

for duty, from Fort Myer, Capt. Maynard J. Simmons, Indian Head.

To Fort Oglethorpe, for instruction, Lieut. Albert G. Hahn, Baltimore.

To Newport News, Va., as a member of a board of medical officers for the special examination of the troops for tuberculosis, from Allentown, Lieut. Israel J. Feinglos, Baltimore.

The University of Maryland, by a recent ruling of the faculty, beginning the next October term, will accept women students in the medical department. This ruling admits women to every department of the university, as they have been accepted in the dental, pharmacy and law departments for some time.

The new private floor and wards of the Maryland General Hospital, which have just been completed, were opened for general inspection January 8.

Dr. Archibald C. Harrison, who holds a commission as major in the University of Maryland Hospital Unit, has returned to his home in Baltimore after spending several weeks in Virginia recuperating from a serious operation.

Capt. Clement A. Penrose, Baltimore, has returned from a four-month visit to London, Paris, and the trenches in France and Flanders, commissioned to make an investigation of sanitary conditions.

Capt. Clarence B. Farrar of the Canadian Army Medical Corps, a former Baltimorean, who has been for the past two years in charge of a large hospital at Coburg for returned Canadian soldiers who have suffered from shell shock and various types of mental disorders as a result of the war, spoke at a special medical meeting in Osler Hall, Baltimore, on December 14.

Dr. Lewis A. Griffiths of Upper Marlboro has been appointed by the President to be inspector of explosives for the State of Maryland. Dr. Griffiths has been a member of the State board of medical examiners for the past 14 years and has also served on the State board of health.

DEATHS

Dr. Charles W. Mitchell, professor of medicine at the University of Maryland, one of the most distinguished specialists in children's diseases in the East and one of the best beloved physicians in the State, died December 28 at his home, 9 East Chase street, of pneumonia, after an illness of 10 days. But few of his intimate friends knew that he was sick, and his death, following immediately after those of his two distinguished fellow-physicians and personal friends, Dr. Theodore C. Janeway and Dr. Charles F. Bevan, caused a distinct shock to those who heard it.

Dr. Mitchell's illness was due to a severe fall suffered by him on December 17 when he was leaving the home of one of his patients. The ice and snow had made the steps slippery, and as Dr. Mitchell stepped from the top step he slipped and fell the full length of the steps, his back and head receiving a sharp blow at every step. No one witnessed the fall, and for several minutes Dr. Mitchell lay helpless on the cold pavement. Then those inside the house discovered him and came to his assistance. In a few minutes he declared himself all right and went on his other medical duties. The next day he was taken with bronchial pneumonia.

For days he hung between life and death, his condition having been made more critical because of a previous severe attack of grip, which left him in a very weakened condition. It is thought that he never fully recovered from his previous attack of pneumonia and that he was particularly susceptible to an attack of the disease, which is now so prevalent in Baltimore and elsewhere in the country.

Dr. Mitchell's principal characteristic was his love for all humanity and of children in particular, and it was his great devotion to children which led him to dedicate his life to the relief of their ailments. No case of suffering among little ones ever left him unmoved, and those among whom he worked felt that his success in his chosen line was due as much to his great sympathy with and understanding of children as it was to his medical knowledge and skill. All his associates, his students at the Maryland University and those thrown in intimate contact with him loved him.

Dr. Mitchell was formerly dean of the Medical School of the University of Maryland, having succeeded Dr. Samuel C. Chew in that position. He gave up that post when he became professor of medicine He was a classmate of President Woodrow Wilson at Princeton in 1879, and between him and the President there existed a warm friendship.

He was a member of the "modern school" of medicine, which holds to the tenet that a

physician can never afford to give up his books, and he was a constant reader. Prior to the war he kept in close touch with latest discoveries in the profession in Berlin, Vienna and other centres of learning in Germany and Austria. Since the beginning of the war he has been intensely interested in the new things that have developed in the study and control of diseases.

Dr. Mitchell, who was born February 4, 1859, was graduated from the medical school of the University of Maryland in 1881. From there he went to Vienna and Berlin to further his studies. Upon his return to this country in 1883 he was made dean of the University of Maryland. This position he occupied for several years, but finally relinquished it in order to devote more time to his practice and study of medicine. About this time he was offered the position of resident physician of Johns Hopkins Hospital, but refused it. Dr. Mitchell was an enthusiastic admirer of the Johns Hopkins Hospital and Medical School and was always interested in the effort to bring the two medical schools of Baltimore into closer sympathy with each other.

In addition to his medical achievements and interests Dr. Mitchell was a man of deep learning. He was particularly interested in history, and his library on the history of medicine is one of the most extensive in the city. Although never active in politics, Dr. Mitchell was deeply interested in political reforms and was very public-spirited in all his convictions. Two years ago, when Dr. C. Hampson Jones, former assistant health commissioner, was ousted from his post by Mayor Preston after 20 years of faithful service and Dr. Haward was given the post, Dr. Mitchell was one of the most outspoken physicians in the big protest meeting of the Medical and Chirurgical Faculty of Baltimore, which was held at Osler Hall.

From 1885 to 1888 he was resident physician at the University Hospital, to 1893 professor of pathology, for the next year professor of children's diseases in the Woman's Medical College, in 1894-95 president of the Medical Society of the University of Maryland, and was made professor of clinical medicine at the University in 1893 and professor of children's diseases in 1897. From 1897 to 1900 he served as dean of the medical schools.

John Richard Batson, M.D., Spencerville, Md.; University of Maryland, Baltimore, 1880; aged 65; formerly a member of the Medical and Chirurgical Faculty of Maryland; died at his home, December 24.

Frank Belville, M.D., Delaware City, Del.; College of Physicians and Surgeons, Baltimore, 1875, aged 65; a Fellow of the American Medical Association; died at his home, January 5, from nephritis.

Theodore E. Cook, M.D., Baltimore; University of Maryland, Baltimore, 1859; aged 79; a Fellow of the American Medical Association; died at his home, January 31, from injuries received in a collision between his automobile and an electric car.

Charles Frederick Bevan, M.D., Baltimore; University of Maryland, Baltimore, 1871; aged 67; formerly a Fellow of the American Medical Association; dean and professor of principles and practice of surgery, clinical and general surgery, in the College of Physicians and Surgeons, Baltimore, from 1888 to 1912; dean of Mercy Hospital from 1901 to 1917; died at the Union Protestant Infirmary, Baltimore, December 27, from heart disease, following an operation on the intestines.

John Calvin Cummings, M.D., Harrisburg, Pa.; University of Maryland, Baltimore, 1884; aged 63; died at his home, November 6, from cerebral hemorrhage.

Thomas Jefferson Powell, M.D., Childersburg, Ala.; University of Maryland, Baltimore, 1866; aged 76; formerly a member of the Medical Association of the State of Alabama; died at his home, November 23, from angina pectoris.

John Francis McCooey, M.D., Woonsocket, R. I.; College of Physicians and Surgeons, Baltimore, 1903; aged 37; died in St. Vincent's Hospital, Worcester, Mass., December 1, from peritonitis.

John E. Bromwell, M.D., Mount Airy, Md.; University of Maryland, Baltimore, 1867; aged 77; formerly a Fellow of the American Medical Association; a member of the Medical and Chirurgical Faculty of Maryland; died at his home, November 9, from arteriosclerosis.

John Edward Beck, M.D., Clarion, Pa.; Baltimore Medical College, 1890; University of Pennsylvania, Philadelphia, 1893; aged 54; died in the Warren (Pa.) State Hospital, December 6.

Julius Royal Fisher, M.D., Akron, Ohio; College of Physicians and Surgeons, Baltimore, 1910; aged 33; a Fellow of the American Medical Association and a member of the staff of the People's Hospital; died at his home, December 23, from septicemia.

IN PLACE OF OTHER ALKALIES USE

Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid Feeding

Phillips' Phospho-Muriate of Quinine

COMPOUND

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be Relied Upon Where a Deficiency of the Phosphates is Evident

NEW YORK THE CHAS. H. PHILLIPS CHEMICAL CO. LONDON

Glycerophos. Comp.

no sugar

We now have an abundant supply of this prime favorite among the most particular prescribers and dispensers.

For a time we could not get any of the **super-quality calcium glycerophosphate,** without which no preparation of these salts will keep well; and we would not use an inferior grade of calcium glycerophos., hence had no alternative but to temporarily withdraw this product from the market. **But now we have an abundant supply** and are shipping large quantities out to the drug trade. Please ask your druggist if he has received his new stock.

Quality Glycerophos. Comp.

SHARP & DOHME

CHILDREN IN WAR TIME.

Fifth Article—Provisions for Soldiers' Children.

How other countries provide from Government funds for the wives and children of their soldiers in active service, while the United States makes no such allowance, is described in the latest report by the Children's Bureau of the United States Department of Labor.

Separation allowances are granted not only in European countries, where the pay of the private soldier of the lowest rank runs from 39 cents to $7.30 a month, but in Canada and Australia, which pay him $33 and $43.80 while he is engaged in foreign service. In addition to the soldiers' pay, the wife and children of the Canadian soldier receive from the Government $20 a month, and the allowance to the family of the Australian soldier varies according to the number of children up to a maximum of nearly $30 a month.

The pensions allowed by law to wives and children of soldiers killed in service are shown to be considerably higher also in Great Britain and the British dominions than in the United States. And the report describes various ways in which foreign governments are making an effort to meet the special needs of individual families.

In presenting this report to the Secretary of Labor, the chief of the Children's Bureau speaks of the general study of child welfare in the warring countries which is being conducted by the Children's Bureau, and says:

"The relation of all these questions of child welfare to the living conditions behind the lines is clear. It is also plain that the living conditions in large measure depend upon the provisions made by the respective governments for soldiers and their dependents. And since the withdrawal of men from the ordinary walks of life to form a large army must create similar problems here, the question of what countries offer important suggestions for a system of soldiers' compensation in this country becomes at once basic to the consideration of child welfare in war time.

"The material contained in the accompanying report, together with the earlier report upon the Care of Dependents of Enlisted Men in Canada, has been already utilized in drafting a proposed measure for soldiers' compensation in the United States by the Hon. Julian W. Mack, chairman of a special committee appointed by the committee on labor of the Council of National Defense for that purpose."

The American measure to which this refers has been endorsed by the President and by Secretary McAdoo. It has already passed the House of Rperesentatives and is now pending in the Senate.

This bill would provide separation allowances to families of men in active service and would revise the scale of compensation to disabled men and their families and to the widows and children of men killed in service. It contemplates the organization of an effective system of re-education under Government direction based upon the experience of Canada and of Europe.

It also includes a provision, suggested by the Canadian muni-

FELLOWS' SYRUP

Differs from other preparations of the Hypophosphites. Leading Clinicians in all parts of the world have long recognized this important fact. HAVE YOU?

To insure results,
PRESCRIBE THE GENUINE

℞ Syr. Hypophos. Comp. FELLOWS'

REJECT < Cheap and Inefficient Substitutes
Preparations "Just as Good"

THE FELLOWS
MEDICAL MANFG. CO. LTD.
26 CHRISTOPHER ST.
NEW YORK

cipal insurance, whereby the Government would sell life insurance at rates based on the cost of insurance in time of peace, the Government itself carrying the added cost of the war hazard. The maximum amount of insurance which could be purchased by one person would be $10,000, and the privileges of the insurance would be open on the same terms to officers, enlisted men and members of the Female Nurse Corps. It is expected that the rate for a maximum policy will be such that any enlisted man could easily meet the premiums from his military pay.

WHY KANSAS TOOK ACTION TO ABOLISH THE PUBLIC DRINKING CUP.

It was only about seven years ago that Kansas passed a law abolishing the common drinking cup. Now there is hardly a State in the Union which has not legislated this disease-spreading carrier out of existence.

Yet it was necessary to carry on an agitation for many years to induce any real action in this respect. Today, even, there are few people who know just what promoted the Board of Health to take the step it did.

A Kansas young woman of irreproachable character returned home from a pleasure tour of travel, recounts the *Ladies Home Journal,* to find an ulcer developing on her lip. She went to a doctor, who pronounced the ulcer of an unmentionable origin. The girl became inconsolable, and her family, distressed almost to distraction, spared no pains nor expense to ascertain the origin of infection. It was established, beyond reasonable doubt, that the girl's misfortune came from the use of a public drinking cup. The case was brought to the attention of the Kansas Board of Health, with the result that the public drinking cup has been ordered abolished on all railroad trains passing through the State, and from all stations, public schools or public institutions of any kind. It is to be regretted that it required a splendid young woman's misfortune to bring about the action taken, but, at least, she has the satisfaction of knowing that through her misfortune she has doubtless been the means of saving thousands of other innocent victims.

The public drinking cup is a thing of the past. But when you stop to think about it, did the public drinking cup ever see more use than the common soda fountain glass? Here is a disease spreader that is permitted to go unchecked. Anyone with the price of a soda, no matter what his condition of health, can step up to a fountain and use the glass with which you may be served a moment later.

There are only a few States that have taken action to abolish the common soda-water glass (and abolished it should be; washing does not affect its germ-spreading status). Shall it be necessary for some horrified father to produce a daughter suffering from a loathsome disease contracted at a soda fountain before our Health Boards and Legislators take action to rid us of this menace?

"Many and diverse are the functions of the internal secretions, and there is probably not a single secretion which does not play some role in maintaining that state of physiological equilibrium which constitutes bodily health."

Any physician who has ever used

PROTONUCLEIN

(THYROID-THYMUS-SPLEEN-PANCREAS-LYMPHATICS-BRAIN)

is bound to appreciate the importance of the internal secretory glands in modern therapy.

PROTONUCLEIN rapidly overcomes morbid conditions, promotes nutrition and restores physiological balance—*and physiological balance means health and physical well-being*—by correcting insufficiencies of the internal secretory system.

A trial bottle will convince you.

REED & CARNRICK
JERSEY CITY, N.J.

MELLIN'S FOOD

In every step in the manufacture of Mellin's Food there is constantly in view the ultimate object of making a product of definite composition

to Accomplish a Definite Purpose.

This purpose is to furnish certain food elements which, when added to cow's milk, make it a suitable food for an infant. The food elements in Mellin's Food—carbohydrates (maltose and dextrins), proteins and salts—when dissolved in water and added to cow's milk so change the balance of nutrition in cow's milk that the resulting modification presents fat, proteins, carbohydrates and salts in the proportion needed

for the Development of Infantile Life.

The success of Mellin's Food, therefore, depends not upon any one of the food elements of which it is made up, but upon the definite composition of "Mellin's Food as a whole" as a means to enable the physician to modify cow's milk to meet the requirements of infant feeding

in a Scientific, Rational and Efficient Manner.

MELLIN'S FOOD COMPANY, BOSTON, MASS.

NEW YORK MILK COMMITTEE.

The death rate among babies in the larger American cities has been reduced 11 per cent. since 1910, according to the infant mortality survey just completed by the New York Milk Committee. This reduction has been made among cities of 100,000 population and over. The smaller cities have not done so well. The reduction in cities between 50,000 and 100,000 population is only 2 per cent., while those under 50,000 show an increase of 5 per cent. The general reduction is 9 per cent. The survey covers 150 of the largest cities in the United States since 1906. The marked decrease in infant deaths did not begin until 1910, when organized infant-welfare work became general.

"These 150 cities represent one-fourth of the population in the United States, and they report 670,000 living births and 68,500 deaths under one year of age for the year 1916, making an infant mortality rate of 100 baby deaths for each 1000 births reported," says J. H. Larson, secretary of the committee. "Or, stated more clearly, it means that one baby out of every 10 born dies before it is one year of age in the cities of the United States with a population of 25,000 and over. Assuming that the statistics for these cities may represent the statistics for the entire population of this country, then we would have approximately 2,750,000 births and 275,000 deaths under one year annually.

"Besides this, it is now known that there occur annually about half as many stillbirths as deaths under one year. Through general education, the baby milk station movement and other efforts along kindred lines, baby deaths have been reduced 9 per cent. since 1910. It is recognized that through maternity care stillbirths can be reduced 22 per cent., and deaths during the first month after birth can be reduced 28 per cent. Nearly half the deaths under one year are of babies less than one month old. This country, following the example of Germany and Great Britain, is now beginning to think of a national maternity care program. When this movement gets under way it should save at least 75,000 mother and baby lives annually."

During 1916 there were 68,500 deaths of babies under one year of age, against an average of 75,075 for the five-year period 1906-1910, showing a decrease of 6536 infant deaths. The death rate of babies under one year of age per 1000 born shows a corresponding reduction to the decrease in numerical deaths.

The lowest infant death rate in the country in 1916 among the cities of 100,000 or over was in Portland, Ore., with a record of only 55 baby deaths per 1000 births. Fall River, Mass., is the highest, with a rate of 163. In the second group, those with a population of 50,000 to 100,000, Hoboken, N. J., has the low rate of 77 against San Antonio, Tex., which has the high rate of 246. In the cities with populations of 50,000 and under, Brookline, Mass., leads with the remarkably low rate of 32 against Austin, Tex., whose rate was 182.

Though there has been a general decrease for all the cities since 1910, the reports for 1916 compared with those of 1915 are not so encouraging. In cities of over 100,000 population there was an increase in the number of baby deaths in 1916 of 1573. Thirteen cities in this group showed reductions, New York City leading with a decrease of 1048, and infant mortality rate of 93, the lowest in the history of the city. Other cities of the group showing decreases were: Philadelphia 65, rate 101; New Orleans 156, rate

Campetrodin

(MADE IN TWO STRENGTHS OF IODINE)

This preparation is an Oleaginous Solution of Iodine in Camphor. ***Penetrating, Powerful Antiseptic, Local Analgesic, Alterative. Ideal Surgical Dressing, Soothing***

A convenient application for wounds, bruises, burns, sores. Useful as an inunction (rubbing for two or three minutes, t. i. d., over the affected area) for rheumatic and neuralgic pains, swollen glands, inflammatory conditions, to abort boils, and for numerous allied disorders for which Camphor and Iodine locally are ordinarily prescribed.

Campetrodin No. 2 is double strength, and is dispensed only when designated. This form is especially valuable in reducing swollen glands, and in relieving obstinate, deep-seated rheumatic and neuralgic pains.

Campetrodin is marketed in one, three and eight-ounce bottles, retailing for 25c., 50c. and $1.00 respectively, and Campetrodin No. 2, retailing for 35c., 75c. and $1.50.

PREPARED ONLY BY

A. H. ROBINS CO., Richmond, Va.

WHEN you write advertisers, mention the MARYLAND MEDICAL JOURNAL.

Sal Hepatica

EFFERVESCENT
SALINE COMBINATION
LAXATIVE & ELIMINANT

Samples on Request

BRISTOL-MYERS CO
NEW YORK

96; Washington 12, rate 105; Jersey City 94, rate 102; Rochester 2, rate 82; St. Paul 56, rate 67; Denver 40, rate 84; Portland 17, rate 55; Oakland 23, rate 65; Scranton 139, rate 85; Grand Rapids 8, rate 115; Spokane 41, rate 57; Albany 62, rate 96.

The cities in this group showing increases were: Chicago 683, rate 111; St. Louis 62, rate 89; Boston 10, rate 104; Cleveland 118, rate 107; Baltimore 150, rate 118; Pittsburgh 114, rate 111; Detroit 548, rate 112; Buffalo 115, rate 113; San Francisco 61, rate 79; Milwaukee 182, rate 113; Cincinnati 118, rate 97; Newark 83, rate 89; Los Angeles 21, rate 69; Minneapolis 121, rate 87; Indianapolis 26, rate 86; Providence 34; Louisville 31, rate 108; Columbus 83, rate 89; Toledo 156, rate 111; Worcester 94; Syracuse 31, rate 98; New Haven 55, rate 89; Birmingham 24, rate 110; Richmond 91, rate 136; Paterson 58, rate 110; Fall River 8, rate 163; Dayton 76, rate 98; Lowell 21, rate 155; Bridgeport 67, rate 96.

Of the cities from 50,000 to 100,000 population there was an increase of 238 deaths. Fifteen cities in this group showed decreases as follows: New Bedford 10, rate 132; San Antonio 7, rate 246; Lawrence 81; Yonkers 48, rate 89; Somerville 10; Troy 48, rate 94; Utica 131, rate 110; Fort Worth 27, rate 84; Schenectady 33, rate 77; Hoboken 16, rate 77; Manchester 8, rate 155; Fort Wayne 17; Brockton 19, rate 93; Wichita 19, rate 74; Mobile 4, rate 101.

Seventeen cities of this group showed increases as follows: Hartford 9, rate 101; Trenton 123, rate 124; Reading 86, rate 174; Salt Lake City 64, rate 80; Lynn 27, rate 80; Springfield 35, rate 86; Des Moines 8; Elizabeth 29, rate 94; Akron 82, rate 90; Wilkes-Barre 23, rate 143; Erie 83, rate 113; Harrisburg 5, rate 104; Holyoke 27, rate 181; South Bend 53, rate 110; Altoona 28, rate 84; Springfield 1; Canton 33, rate 109.

Of the cities under 50,000 there was an increase of 755 deaths under one year compared with 1915. Out of the 71 cities in this group 21 showed reductions as follows: Augusta 18; Berkeley 10, rate 47; Superior 9, rate 119; Newton 15, rate 67; Galveston 38, rate 74; Everett 1; Cedar Rapids 8; Perth Amboy 6, rate 118; Jackson 24, rate 106; Lima 18, rate 78; Orange 13, rate 91; New Rochelle 22, rate 68; Norristown 27, rate 120; Brookline 2, rate 32; Kingston 1, rate 100; Wilmington 11, rate 146; Madison 2, rate 45; Montclair 2, rate 60; Concord 1, rate 76; Raleigh 13, rate 132.

Fifty out of these 71 cities showed increases as follows: Binghamton 31, rate 139; Lancaster 16, rate 97; Springfield 28, rate 80; Rockford 37, rate 99; Sacramento 13, rate 82; Malden 5, rate 55; Haverhill 18, rate 89; Lincoln 10, rate 80; New Britain 13, rate 94; Salem 21, rate 99; Topeka 2, rate 84; Wheeling 7, rate 134; Macon 11, rate 129; San Diego 24, rate 69; Kalamazoo 4, rate 70; Flint 94, rate 111; Racine 43, rate 115; Tampa 10, rate 107; Elmira 2, rate 93; Quincy 7, rate 94; Springfield 36, rate 133; Roanoke 36, rate 122; Auburn 37, rate 85; East Orange 5, rate 59; Pittsfield 88; Jamestown 29, rate 101; Mt. Vernon 1, rate 87; Niagara Falls 28, rate 131; La Crosse 16, rate 49; Pasadena 7, rate 48; Austin 18, rate 182; Colorado Springs 13, rate 104; San Jose 34, rate 94; Lorain 61, rate 181; Easton 20, rate 119; Zanesville 13, rate 124; Poughkeepsie 19, rate 116; Danville 9, rate 86; Waltham 18, rate 38; Newburgh 1, rate 117; Newport 4; Watertown 12, rate 127; Nashua 20, rate 117; Elgin

The Dugdale Treatment

for

MALIGNANT GROWTHS

A refined creosote combined with hydrocarbon and essential oils. For literature, write to

FREDERICK DUGDALE, M.D.
372 Boylston Street
Suite 61 BOSTON, MASS.

Mountain Valley Water

From (near) HOT SPRINGS, ARK.

Send for Analysis

Mountain Valley Water Co.

St. Paul 7470 206 N. Calvert Street

YOUR SPECIAL ATTENTION
IS DIRECTED TO

Beef, Iron and Wine, with Hydropepsin,
Liquid Pi-cine Co., Red Syr. Hypophosphites Co.,
Compound Salol Capsules.

THOMAS & THOMPSON CO.
Manufacturers and Dispensers of Pure Medicines (Wholesale and Retail)
Cor. Baltimore and Light Sts., Baltimore, Md.

A Dependable Bowel Corrective

that produces its effects by stimulating and promoting the physiologic processes of the intestines.

PRUNOIDS

do not excite excessive peristalsis nor give rise to after constipation.

Prunoids promptly relieve and correct the conditions causing Chronic Constipation and meet every requirement for a safe and effective intestinal evacuant. Especially useful for correcting bowel torpidity.

DOSE---One to three tablets at bedtime as required.

A Gentle Cardiac Tonic

that supports and sustains the heart through its capacity to improve cardiac nutrition.

CACTINA PILLETS

are free from cumulative or other objectionable effect and produce prompt and gratifying results in Tachycardia, Palpitation, Tobacco Heart, Arrythmia, and all Functional Diseases of the Heart where the heart's action needs supporting, strengthening or regulating.

DOSE---One to three Pillets three times a day.

SENG

A trustworthy gastric tonic and secernent

SULTAN DRUG Co.,
ST. LOUIS, MO.

1, rate 86; Battle Creek 6, rate 77; Green Bay 42, rate 166; Alameda 7, rate 50; Cumberland 29, rate 114; Sioux Falls 15, rate 99; Reno 7, rate 67.

FIVE FILTHY FINGERS.

Did you ever make a diary of your fingers? Did you ever set down in cold black and white the things your fingers touch every day and did you ever consider the number of times daily that your unwashed fingers seek your mouth?

When surgeons discovered that it was their own infected fingers which carried germs into wounds they set about trying to discover a means whereby their hands could be rendered surgically clean, i. e., free from germs. The whole realm of chemistry was ransacked for agents which would disinfect hands, and the scrubbings and immersions to which they subjected their hands are even yet a tender memory to the surgeons of that period. But all of these efforts proved useless, and at last in despair surgeons took to wearing rubber gloves, which could be boiled, thus bringing to each patient, as it were, a fresh pair of sterile hands. In other words, try as you will, you can't by any known method make your hands absolutely clean.

The great agent in the spread of those diseases whose causative organism is present in the secretions of the mouth and nose is the human hand, and if saliva was bright green we would be amazed at the color of our fingers. As a matter of fact, most of us carry our fingers to our mouth or nose many times daily, there to implant the germs of disease which other careless people have spread about, there to collect a fresh cargo of infectious material to scatter for somebody else.

It is true that most germs of disease die quickly once they leave the human body, but what does the death of a few billion germs matter so long as the supply is copious and never-ending?

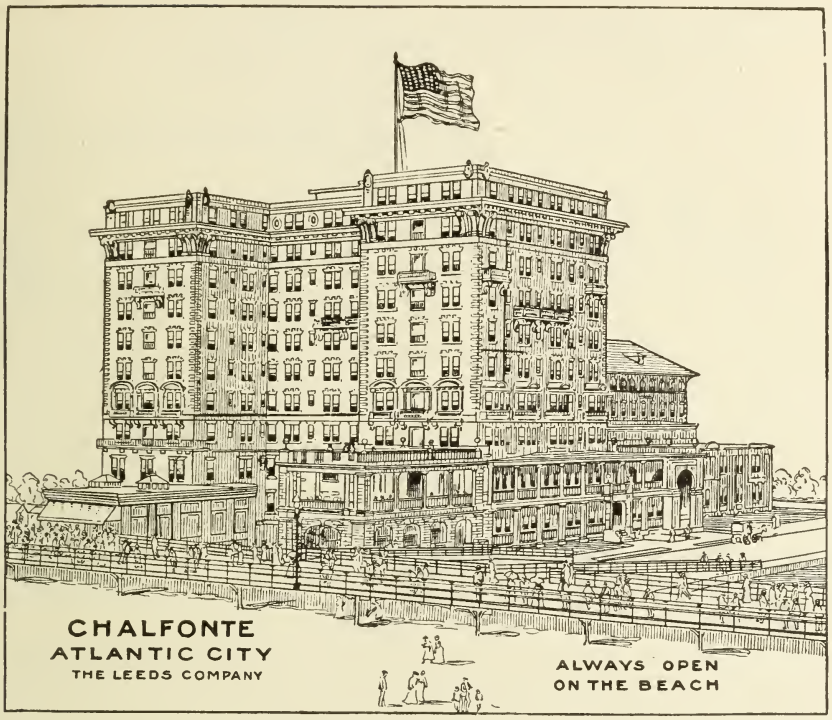
What an enormous number of infected things we touch during the day, and how infrequent and cursory are the hand-washings we perform.

The answer is to keep your fingers out of your mouth and nose. Thus we limit the spread of disease from these orifices at least, thus we eliminate the danger of contracting disease from someone else who was not quite so careful.

ONE PHASE OF HOME DEFENSE.

"Protect the defective children, provide for their training and proper care, and you will lessen the burden of dependency and delinquency." This is the gist of the advice contained in a new report on Mental Defectives issued by the Children's Bureau of the United States Department of Labor, and appearing with special timeliness now that war conditions may tend to make more serious the problem of delinquent and dependent children.

The report is based on a study of the social conditions of 212 mental defectives in New Castle county, Delaware. A total of 175, or more than four-fifths of these, were in need of public supervision or institutional care because of bad home conditions, physical helplessness or pronounced anti-social tendencies, and only 12 of them were provided for in an institution adapted to



Select Location

PHILLIPS HOUSE

Open All the Year

F. P. PHILLIPS

Specially Prepared Diets for Convalescents

Nurse and Doctor on Call

Massachusetts Ave., near Beach **ATLANTIC CITY, N. J.**

SUBSCRIBE TO THE

Maryland Medical Journal

$2.00 PER YEAR

their care. Twenty-six of the defective children were in industrial schools for delinquent children, and of these the report says:

"Institutions for the care of delinquent children are greatly handicapped by the presence of defectives, since they require special attention and exert a bad influence over the normal children. After a short period of residence these defectives are returned to the community without sufficient supervision."

Other defective children with delinquency records were at large in the community; in all, 98 of the 212 defectives studied were delinquent or immoral or difficult to control.

The report suggests that, while any program for the care of mental defectives must have as its central feature suitable institutional provision offering training or custodial care according to the needs of the individual, other activities are equally essential. It is pointed out, for example, that institutional care is not necessary for all mentally defective children, for, contrary to the popular impression, it is found that there are certain types who safely can remain at home provided they have the attention and study which they deserve. However, special provision should be made for their safety, care and education, and outpatient work of an institution for the feeble-minded, in co-operation with schools, social agencies and families, is referred to as a new and important method of providing in the most human possible way for such children.

The possibilities of industrial training by which certain types of defectives may gradually become in part self-supporting and the importance of providing facilities for mental examination and diagnosis of doubtful cases are also brought out in the report.

CHILDREN IN WAR TIME.

Thousands of children besides war orphans and refugees have been directly affected by the war, according to reports from belligerent countries which have come to the Children's Bureau of the United States Department of Labor. Juvenile delinquency has increased, more children have been employed under adverse conditions, special measures have been necessary to protect the health of mothers and babies, and home life has been broken up by the increased employment of mothers.

The Bureau believes that the experience of other countries should be carefully considered in order that all possible provision may be made to prevent similar harm to children in the United States. The Bureau has therefore begun a brief review of foreign experience, in so far as it can be understood from available reports, and will shortly publish a series of special articles about children in war time.

A preliminary survey of the foreign material emphasizes the importance of a strict enforcement of all child-labor and school-attendance laws and a generous development of infant-welfare work by public and private agencies. The Children's Bureau suggests that a well-planned Baby Week will be more valuable this year than ever before, and will gladly send its bulletin of directions for Baby-Week Campaigns to any address.

To those who are especially interested in working children, the Bureau's new report on the employment-certificate system in New York State will show certain points which are essential if an age limit for children's work is to be effective.

Stanolind

Reg. U. S. Pat. Off.

Liquid Paraffin

In Gynecology

Stanolind Liquid Paraffin is an ideal, odorless agent in which to suspend the powerful, antiseptic astringents, employed in gynecological work.

Its adaptability as a vehicle for astringents makes it the more convenient to use them in the treatment of inflammations of the vagina, cervix and endometrium.

Stanolind Liquid Paraffin combined with ichthyol, and similar products, is an excellent agent to apply to the inflamed vaginal surfaces, by means of tampons of cotton-wool.

Stanolind Liquid Paraffin also is indicated in the treatment of constipation and intestinal stasis.

Stanolind Surgical Wax For Injuries to the Skin

While it is more generally used in the treatment of burns, it also is employed successfully in the treatment of all injuries to the skin, where, from whatever cause, an area has been denuded—or where skin is tender and inflamed—varicose ulcers, granulating wounds of the skin, etc.

Surgeons will find it useful to seal wounds after operations instead of collodion dressings.

It maintains the uniform temperature necessary to promote rapid cell growth.

It accommodates itself readily to surface irregularities, without breaking.

Stanolind Petrolatum For Medicinal Use

in five grades to meet every requirement.

Superla White, Ivory White, Onyx, Topaz and Amber.

Stanolind Petrolatum is of such distinctive merit as to sustain the well-established reputation of the Standard Oil Company of Indiana as manufacturers of medicinal petroleum products.

You may subject Stanolind Petrolatum to the most rigid test and investigation—you will be convinced of its superior merit.

STANDARD OIL COMPANY

(Indiana)

Manufacturers of Medicinal Products from Petroleum

72 West Adams St. Chicago, U. S. A.

671

PHYSICIAN WANTED

WANTED—Physician; four years hospital service. Exempt. Licensed in Maryland. Locum tenens or salaried appointment. For particulars, address

BOX 12, MARYLAND MEDICAL JOURNAL,
Professional Building,
Baltimore, Md.

LOCAL DIRECTORY

THIS Directory is maintained mainly for the benefit of local firms seeking the patronage of physicians and their families. Only well established and reliable concerns will be represented, and doubtless the space at our disposal will be constantly in demand. In responding to these exploitations, the reader will find it mutually advantageous to mention the MARYLAND MEDICAL JOURNAL.

THE MEDICAL JOURNAL CO.

Competent Attendants for Women Telephone Mt. Vernon 5413

GIBSON CO., Inc.
(Formerly McKEE Co., Inc.)
Baltimore's Best Surgical Instrument House
HOSPITAL, INVALID AND SICK-ROOM SUPPLIES
310 N. Eutaw Street BALTIMORE, MD.

We Do Not Prescribe Glasses—We Make Them
BOWEN & KING
Prescription Opticians
405 North Charles St.
Telephone BALTIMORE, MD.

The National Bank of Baltimore
BALTIMORE AND ST. PAUL STS.

Capital,	$1,210,700.00
Surplus and Undivided Profits,	323,572.91
Deposits,	7,676,460.75

The Medical Standard Book Co.
(The Book Mart)
301 N. Charles Street, Corner Saratoga
Headquarters for MEDICAL BOOKS
PRINTERS Largest and Most Complete Medical Book Store South of New York

Publishers' Department.

Danger Due to Substitution.

HARDLY another of all the preparations in existence offers a wider scope to imposition under the plea of "just as good" than the scientifically standardized Eucalyptol.

The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others, reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

Many months ago, writes Leonard Williams in the "Practitioner," London, a friend said to me, "How do you treat pneumonia?" Having never completely divested myself of my truculent mid-Victorian training I replied, "With Faith, Hope and Charity. Faith, in the medicatrix nature, Hope, for the absence of complications, and Charity with those who differ from me."

"You don't give Digitalis?" "No."

"Nor Calcium?" "Neither."

"Not even thyroid?" "Animal farceur!"

"And you make no local applications to the chest wall?" "Never."

"Then you are wrong. Listen."

And, being a willing listener, I listened. Some 20 years ago he had seen much hospital work in Paris. At that time in the treatment of pneumonia the practice of many of the French physicians was to blister the affected side, and he had satisfied himself that the cases thus treated did better than those in which the blistering was omitted, and he adopted the practice in England. After a time, however, largely on account of the objections urged by the patients and their friends to the pain and discomfort produced by the blisters, he rather reluctantly ceased to apply them and reverted to the "expectant" method

Delightful dance music

Our Victor Dance Records offer everything that's latest and best in dance music. Come in, and we'll play your favorites for you. The chances are we have the very piece you've been wishing to hear.

A Victrola — some Victor Records—and you can dance wherever you please and as long as you please. You can get a Victrola for **$20** to **$450** and on *the easiest of terms.* Ask us.

Victrola

"HIS MASTER'S VOICE" REG. U.S. PAT. OFF.

COHEN & HUGHES

BALTIMORE WASHINGTON

Victor Distributors

14 N. Charles Street 220 N. Howard Street

in which he had been nurtured. Time went by, and one day he received an advertisement of a preparation known as Antiphlogistine, for which it was claimed that when applied to the affected side in pneumonia, either lobar or catarrhal, it had the effect of reducing the temperature, slowing the pulse-rate and promoting sleep without any additional treatment. With the memory of his blistering days full upon him, he decided to give it a trial. His experiences were such as to give him encouragement, and to bring him near to believing that not all men, not even all American advertisers, were necessarily liars.

I decided to turn my attention to the claims of Antiphlogistine, which up to that time I confess to having regarded merely in the light of a convenient form of poultice, locally dehydrating, decongestioning and comforting, but probably innocent of any effect upon pulse rates and temperatures. Here again, one case in the history of my conversion must suffice.

In November of last year a young Belgian of 20 years was admitted into the French hospital with a temperature of 104 deg., a quick bounding pulse, slight cough and severe pain in the left side. On admission physical examination was negative. The following day his nose bled, but neither I nor the resident—an experienced Belgian doctor—could detect any signs in the chest. That night he was delirious and coughed a great deal. On the following day he voided some sticky sputum which was typically rusty, and developed labial herpes. Physical eyamination now revealed the classical dulness and tubular breathing over the lower lobe of the left lung for which I had been looking. His temperature was 105 degrees. At about 4 P. M. a gamgee jacket thickly spread with Antiphlogistine was applied over the whole chest. The following morning his temperature was normal.

Now, I do not pretend to explain these happenings; for the benefit of the open-minded, I content myself with recording them. The clinician must protect himself against the sneers of the laboratorist. That we are unable to follow the processes by which a healing measure produces its effect is a sorry reason for discarding it. The search for a scientific explanation is a laudable and, academically, an interesting adventure, but in practice it is but a sleeveless errand. Trosseau, probably the greatest clinician of any time, has expressed in characteristically simple words the only position proper for us to adopt: "Je ne vois en therapeutique que deux chases: le medicament applique a l'organisme, et le resultat eloigne de cette application. Quant aux aux phenomenes intermediares, ils nous echappent, et nous echapperont probablement toujours." Who can explain the process by which digitalis works its wonders; and what advantageth him who can?

"We think that all who have made a test of the action of Tongaline, either in the acute stage of grippe or in the period of convalescence marked by an extreme nervous disturbance so often present, will be convinced that the remedy has a direct and marked influence for good.

"There is not an organ or function of the body which may not be so impaired or affected by grippe as to lead to a permanent disability, but on account of the extraordinary eliminative action of Tongaline, this rarely occurs if that remedy is used, since there is then no opportunity for such an accumulation of the poison as to induce permanent harm."

W. H. Carrigan
President

E. F. Ohlmeyer
Sec'y-Treas.

The Brown Optical Co.

Optometrists

112 N. HOWARD STREET

LICENSED BY THE STATE TO EXAMINE EYES

SPINAL TROUBLE
NERVOUS DISORDERS

L. W. BULLARD, D.C.

Maryland's Pioneer Chiropractor

519 N. Charles Street
BALTIMORE, MD.

Hours:
9 to 12. 1 to 5

Phone:
Mt. Vernon 5339

Hotel Wachapreague

WACHAPREAGUE, VA.

7 Points Why You Should Spend Your Vacation at Wachapreague 7

1st—Good table.
2d—Perfect Ventilation.
3d—Comfortable beds.
4th—Excellent surf bathing.
5th—Inland waters for swimming.
6th—Boating and fishing unequaled.
7th—One Hotel on ocean front; one Hotel on mainland, waterfront. Same management. The change is appreciable.

A. H. G. MEARS

Wachapreague, - - Eastern Shore, Va.

Continental Hotel

South Tennessee Ave.

ATLANTIC CITY - NEW JERSEY

Always Open Always Ready
Phone or Write

Within one square of P. R. R. Depot, Ocean, Banks, Piers, Catholic and Protestant Churches and Bathing Grounds. Special Diet for Invalids. Resident Nurse. Seventeen years in same location. Garage attached.

M. WALSH DUNCAN
Owner and Proprietor

The Pain of Acute Cystitis.

In the relief of the pain and frequency of desire to urinate in acute cystitis, Papine (Battle) will be found an effective and trustworthy agent. Possessing marked analgesic properties and yet subjecting the patient to a minimum of disagreeable after-effects, Papine (Battle) is a preparation entitled to the physician's most careful consideration.

Its analgesic properties depend upon a uniform quantity of purified opium. In preparing it the utmost care has been used to insure uniformity, potency and reduced untoward effects.

In all pains in the genito-urinary tract the physician has in Papine (Battle) an analgesic that can be depended upon fully.

Stearosan: Santal Oil in Improved Form.

After a compartively short course of treatment with santal oil the stomach sometimes rebels, and the patient suffers from such symptoms as gastric distress, nausea, disagreeable eructations and loss of appetite. This necessitates a discontinuance of the medicament and means an annoyance to the physician and a loss to the patient. It was to obviate this—to secure the therapeutic virtue of oil of santal without its deleterious effects—that Stearosan was evolved.

Stearosan is santalyl stearate—santalol combined with stearic acid—a true chemical compound, equivalent to about 50 per cent. of santal oil. It is supplied by Parke, Davis & Co. in 10-minim elastic gelatin globules, in boxes of 25 and 100. The average dose is one globule immediately after each meal, to be increased to two or three as indicated.

Stearosan does not tend to irritate the gastric mucosa, as it is soluble only in the alkoline medium of the intestinal tract. The therapeutic indications for it are the same as those for oil of santal—notably, chronic gonorrhea, cystitis, urethritis, bronchitis, bronchorrhea, etc. Psoriasis, urticaria and other skin disorders are also amenable to the influence of Stearosan.

A complimentary package of Stearosan will be sent to any physician who wishes to test the therapeutic efficacy of the product. Requests should be addressed to Parke, Davis & Co. at their home offices and laboratories, Detroit, Mich.

FOR THE TREATMENT OF BONE DISEASES OF THE GRAVEST CHARACTER

DRUID SANATORIUM

BALTIMORE, MARYLAND

INCLUDING OSTEO-MYELITIS POTT'S DISEASE HIP-JOINT DISEASE AND ALL OTHER TUBERCULAR BONE DEGENERATION

A private sanatorium devoted to the treatment of bone diseases; including simple osteo-myelitis, and tubercular degeneration, regardless of location, extent, or duration. Many of these cases have defied both medicine and surgery, failing to respond to drugs, to the knife, to skin grafting, or to bone implantation. In fact they have reached the limbo of the incurable, with a most hopeless future.

It is just such cases we are successfully treating, and for their comfort and care we have a most pleasantly located sanatorium, modern in every detail; it is located in the residential section of Baltimore near the entrance to the world-famous Druid Hill Park.

Applications only entertained when placed through or recommended by the patient's attending physician. It will be a pleasure to correspond with all who desire further information.

DRUID SANATORIUM
BALTIMORE, MARYLAND

Eldridge C. Price, M. D.
Medical Director

Western Maryland Dairy

BALTIMORE, MD.

BACTERIAL tests show that the milk received by us primarily contains a lower average percentage of bacteria than is usual. It is then subjected to pasteurization after the most scientific and modern methods, thus giving us a distinctive product. Our hygienic plant, **No. 1117 Linden Avenue,** is at all times open to the inspection of physicians and others who are interested.

W. E. Jones Art Galleries

Etchings and Mezzotints

In Monochrome and Color

OIL PAINTINGS

330 North Charles Street

Professional Bldg. BALTIMORE, MD.

The Pneumonia Convalescent.

If the convalescent from pneumonia is to secure the highest protection against complications, such as a tubercular infection grafted on to the condition from which he is just recovering, some measure to increase his general bodily resistance must be employed. For this purpose cod liver oil, as represented by Cord. Ext. Ol. Morrhuae Comp. (Hagee), is of such large utility that with many physicians it is a routine practice to put their pneumonia convalescents upon it for a considerable period following the primary infection. Cord. Ext. Ol. Morrhuae Comp. (Hagee) offers the patient the sustaining and invigorating properties of cod liver oil, but it is so palatable that it may be used even in the case of those whose digestive apparatus is below par. It will do everything that cod liver oil is expected to do.

Persistent Coughs and Colds.

Colds that linger invariably owe their persistence to inability of the body to exert sufficient resistance to overcome germ activity. Recovery, in consequence, is always largely a question of raising the general vitality and increasing bodily resisting power. To accomplish this, no remedy at the command of the profession is so promptly effective as Gray's Glycerine Tonic Comp. Under the use of this dependable restorative and reconstructive, the appetite is increased, the digestion improved, the nutritional balance restored, and the vital resistance so raised that the body can control infectious processes, and establish a safe and satisfactory convalescence.

In the treatment of colds, therefore, "Gray's" can be relied upon to raise the defensive forces of the organism and fortify it against germ attack.

SANITARIUMS, ETC.

The Gundry Sanitarium

(ATHOL)

A Private Sanitarium for the Care and Treatment of Nervous and Selected Cases of Mental Diseases in Women.

Splendidly located, retired and accessible to Baltimore, surrounded by 28 acres of beautiful grounds. Buildings modern and well arranged. Every facility for treatment and classification.

For further information, write or telephone

C. & P. 'Phone
Catonsville 78-R

DR. ALFRED T. GUNDRY, or
THE GUNDRY SANITARIUM
Athol, Catonsville, Md.

The Richard Gundry Home

(Established 1891)

HARLEM LODGE, CATONSVILLE, BALTIMORE COUNTY, MARYLAND

A WELL EQUIPPED SANITARIUM for the treatment of Nervous and Mental Diseases, selected cases of Alcoholic and Opium Habitues, and the various diseases requiring the removal from the environments of home.

For rates, etc., address DR. RICHARD F. GUNDRY C. & P. Phone No. 86, Catonsville

References

DR. WM. OSLER, Oxford, Eng. DR. JULIUS FRIEDENWALD, Baltimore. DR. WM. S. THAYER, Baltimore.
DR. HENRY M. HURD, Baltimore. DR. NATHAN R. GORTER, Baltimore. DR. J. ALLISON HODGES, Richmond, Va.
DR. THOS. A. ASHBY, Baltimore. DR. SAMUEL C. CHEW, Baltimore. DR. WM. F. DREWRY, Petersburg, Va.
DR. J. CLEMENT CLARK, Sykesville, Md. DR. WM. S. GARDNER, Baltimore.

Arlington Sanatorium

A THOROUGHLY modern institution, devoted to the treatment of **Drug, Alcohol** and **Nervous Diseases.** The surroundings and interior of "The Arlington" are suggestive only of a modern home of refinement. Patients are treated in a strictly ethical manner. Inspection by reputable physicians invited.

Write for Booklet
"Breaking the Shackles"

Dr. C. T. SCUDDER
Medical Director

Evergreen Place and Palmer Avenue, Arlington
Phone, Arlington 175
Baltimore County, Md.

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery

Vol. LXI, No. 3 BALTIMORE, MARCH, 1918 Whole No. 1198

THE PANEL DOCTOR.*

By William Gale Curtis,
Chairman Educational Committee, Insurance Economics Society of America.

THREE hundred years ago a small handful of men drew up and signed in the cabin of the Mayflower the first articles of independence for this country. In those articles is found the great foundation upon which this gigantic and successful democracy was reared.

Fifty years ago there began to arrive in the steerage of transatlantic vessels great numbers of the poverty-stricken serfs of Germany, in whose minds the seeds of socialism had already been sown. From other countries also came the poorest, together with the political and social offscourings.

The privilege of free thought and free speech made fertile ground for the propagation of socialism, and, like the weeds of the garden, it has flourished and spread, though producing nothing of value.

Today there are three main divisions of socialism in this country. (1) The I. W. W., a pseudo labor organization and the bete noir of labor unions. Their principles would do credit to anarchy. (2) The Non-Partisan League. Started two years ago in North Dakota as the Farmers' Non-Partisan League. It swept the State and immediately reorganized with national headquarters in St. Paul. That organization now has foothold in 20 States, and deluded farmers are flocking in at $8 each, because the league proposes to have the States take over and operate the railroads, banks, elevators and insurance companies, without profit; nominate and elect only farmers for public office, and none but farmers can belong. (3) The American Association for Labor Legislation, the high-brow division of socialism, and of its objects and plans I will speak at greater length, because its plans contemplate dropping its net of silken mesh over both medicine and insurance. I preface further comment with that statement, in order that it may not be charged, as it has been in the past, that I am endeavoring to conceal personal interests. In dealing with this matter,

*A paper read before the Baltimore City Medical Society February 1, 1918, by William Gale Curtis, Chairman Educational Committee, Insurance Economics Society of America.

citizenship interest and personal interest are both entitled to consideration.

This American Association for Labor Legislation is made up, in its active personnel, of dreamers, theorists and professors of social economy such as Irving Fisher of Yale and W. H. Chamberlain of Columbia, of Socialist reformers such as Dr. I. M. Rubinow, Dr. Samuel Kopetzky, S. S. Goldwater, Henry R. Seager, and of Socialist political climbers such as Congressman Meyer London, Commissioner of Labor Royal Meeker, Surgeon-General Rupert Blue and Dr. Alexander Lambert, but we fail to find on their roster of workers anyone of material importance in the field of finance, commerce or labor. Likewise, we fail to find any organizations, either commercial, industrial, scientific or religious, affiliated with them.

Coming now to their plan, which they borrowed, body and breeches, from Germany. It presents 10 main features to attract the wage-earning voter:

1. Cash benefits of 2/3 wages.
2. Free medical treatment.
3. Funeral benefits.
4. Surgical and nursing attendance.
5. Cash benefits for dependents.
6. Free medical and surgical supplies.
7. Hospital service.
8. Maternity cash benefits.
9. Medical treatment of dependents.
10. Sixty per cent. of the cost to be paid by employer and State.

All summed up, "something for nothing" is the lure.

This German Socialist plan that we are asked to adopt presents many attractive but deluding features, and upon analysis it presents some insuperable objections:

1. It would be unconstitutional.
2. It would create class distinction.
3. It would destroy initiative and independence.
4. It would establish socialism.
5. It would set up paternalism.
6. It could not reach and serve most of those who form the statistical foundation and basis of argument for the proponents.
7. It would not diminish suffering, reduce time loss, or save a single dollar.
8. It would not effect economy of any kind, but would create a constantly increasing burden for well-ordered society.
9. It would breed social corruption, malingering and dishonesty.
10. It would corrupt medical practice and increase political corruption.

Taking these up now in order.

Our Constitution declares for equality and against inequality. It was never contemplated that because a man is a manual laborer, or because his earnings are less than his neighbor's, that his personal liberties must be restricted, and that the State shall assume to tell him how a portion of his income shall be spent. Dr. Rubinow, when we debated this subject in Detroit, admitted its unconstitutionality, and said, "Suppose it is; why, then amend the Constitution." I was not surprised, because a Socialist can never have respect for democratic ideals. The founder of this socialistic cancer, the Kaiser, is fondly hoping for the privilege of amending our Constitution and generally introducing German Kultur. Nothing else that could be introduced in this country would so quickly destroy it as would class distinction. To brand 30,000,000 of wage earners as wards of their States and quasi-charity subjects, and to compel them to accept three per cent. of the cost of their living as charity donated by the State and employer, will tend to destroy the best fabric of the nation, while to tell wage earners getting $101.00 per month that they are barred from personal or family benefits, but must contribute to the cost of the service under the whole list of benefits heretofore mentioned for the wage earner who gets $99 per month, and for every manual laborer no matter what he gets (and many are now getting up to $12 per day), will be to complete the destruction. The effect would be revolutionary. We must continue our system of Government, which is without prejudice, and represents fairness and justice for all. Independence, equality and freedom have always been the inspiration of the American people. The necessity for absolute self-dependence stimulated most of those geniuses of the past, whose products are the richest endowment of the world today. Friction between condition and desire gave off the spark which ambition blew into flame, and fed by opportunity and feathered by freedom, many wonders of the world resulted. To shackle that priceless spirit now would be to rob the most versatile people of all time of their greatest endowment.

Social insurance is plain socialism, and the theories of socialism are fundamentally wrong, therefore, anything conceived of socialistic theories must inevitably fail. To destroy competition by setting up paternalism; to establish corrupt and inefficient political control; to place under the supervision and general control of 250,000 politicians scattered over the United States, a sum totaling more than $1,000,000,000 annually, to be doled out in driblets, and accounted to no one, is but to foster and perpetuate robbery of the people. To establish paternalism would be to destroy a tenet upon which State governments are founded, viz., that the State shall not engage in any business that can as well be carried on by its citizens. If the theory to socialize or paternalize three per cent. of the cost of living of 4/5 of the wage

earners of this country is correct, then it must be correct for 13 per cent. If it holds true for 13 per cent, we can, through the employer and the State, covers 60 per cent. of the cost of fuel and shoes; and if for 13 per cent., why not 63 per cent.? Then we can include food, and when this simple system of furnishing the wage earner with 2/3 of his living at 40 per cent. of the cost —compelling employer and the State to pay the balance—has been reached, we will have socialized the farms, the mines, the factories and the railroads. We will have done away with the wholesaler and retailer, because this Utopian theory demands that there shall be no profit. At this point, a moment's consideration discloses that the employer and taxpayer will have just about disappeared, and with them the 60 per cent. contribution.

I have purposely expanded this theory of social reform, in order to expose its fallacy and weakness. If now we begin to contract, at which station shall we pause and say practicable and economical? Again, obviously there is no such station.

How could such a plan reach and serve a very large part of those whom it aims to cover? The subnormal, mentally, physically and morally, represent the big factor in unemployment, sickness and wage loss. Who would become the employer of such, with foreknowledge that every one added to his payroll would increase his contribution cost? How could such a plan serve rural districts? Leaving out Baltimore, Maryland has a population of 1,000,000 scattered over 10,000 square miles of territory, and in all that territory there are only three cities large enough to provide the number of wage earners that must be in each district established by the State commission. It would mean the establishment of one carrier fund in each county, and 80 per cent. of the wage earners compelled to belong. Can you imagine what the service would be like?

From an economic viewpoint its greatest weakness would be its inability to correct conditions or save either time or money. When the prospectus of the American Association for Labor Legislation came out in 1914, it startled the country with the announcement that the annual wage loss through sickness was $600,000,000. Owing to the great increase in wages, the loss now amounts to at least $800,000,000, and their plan will not save a single dollar, because it does not contemplate doing so. The time loss, nine days average for each wage earner, is net loss to the community. Its value in money loss to the individual, amounting to $24. Even the contemplated replacement is small, because the wage earner is to receive only 2/3 of his wages and for only 2/3 of the time (average time loss nine days, and first three days not covered). The employer and State contribute 60 per cent., so it figures out that the wage earner is paid in charity 60 per cent. of 2/3 of 2/3 of $24, or exactly $6.40. The cost of compulsory health insurance under their plan figures $30 each, so the balance of $23.60 goes for ad-

ministration and service. As a matter of fact and record, the loss to the community increases, because in all countries where social insurance is in effect, particularly in Germany and Austria, where such system has been in vogue for many years, the average number of disabilities has increased 40 per cent., while the average period of disability has increased 20 per cent., so that we would face the prospect of having the enervating effect upon the morale of beneficiaries increase time loss per wage earner from 9 to 15 days. Thus by the adoption of such a plan we would lay the foundation for increasing the wage loss upon the same number of wage earners, by over $500,000,000 per year during the next 10 years.

Would the plan alleviate misery or suffering? Any plan that contemplates paying for results will never correct the cause. The only possible relief must come through prevention, and prevention is the only possible medium of economy. The coal edict of two weeks' duration cost the nation $50,000,000 net, as that much wage-earners' time value was lost to it forever. It is equally true of time value loss through sickness, and the only possible road to economy must be that of health conservation and sickness prevention, thereby reducing the average loss.

The test of any economic measure is the net profit resulting, therefore, let us bring the plan to Maryland and test its worth. If I have argued fairly in showing that misery and suffering will continue, that the time-loss will continue or increase, there remains but money and morals to consider. The United States Labor Bureau credits Maryland with 600,000 wage earners. At the present wage average your annual loss through sickness is $13,500,000, and that loss will continue and will increase. The whole cost of the plan as proposed will be $18,000,000 per year, but we may subtract 40 per cent., or $7,200,000, because the wage earners merely transfer that from one pocket to another. That leaves $10,800,000 for the employer and taxpayer to contribute to this new State charity. The State receives nothing, saves nothing, and benefits nothing. The plan will add to political corruption, because of the several thousand political positions that would be created under the State commission. There are also in the State more than 25,000 politically employed who would come under the law, and for whom the taxpayer would have to pay 60 per cent. of the cost.

The employer receives nothing, saves nothing and benefits nothing. In addition to his direct burden he must serve on the governing boards and boards of directors of the carrier asociations. He must also employ help to keep track of the different rates charged by the association to which his employes belong, figure each man's percentage, deduct it from his pay, put in his envelope a slip showing how and why; report and account to each association; permit his payrolls to be audited at any time;

transfer his employes from one association to another if they move, and all this represents his additional expense.

The wage earner's benefits are doubtful. He pays in $12 from his wages, and receive back only $6.40 in cash. Whatever else he receives is service, and for those questionable benefits he must permit himself to be branded a ward of the State, tagged, numbered and catalogued; reported on every time he changes position; give up family physician privilege, and pay for everything he wants not covered by contract service.

The whole plan is utterly devoid of economic value.

We come now to the third division--medical service—and introduce you to yourselves as the panel doctors. There is as much difference between the practice of medicine as carried on by this society, and panel practice, as there would be in the appearance of this dignified body if you were all to retire and then return wearing grimy overalls, carrying dinner-pails and wearing your service or employment tags conspicuously pinned to your caps.

It will be best to go to the bottom and study the foundation first. Dr. Delphey of New York presents a tabulated analysis of the medical service features in the *New York Medical Journal*, December 16, 1916, and in that article he shows that the State medical control must be organized under the plan as follows:

1. A temporary commission of four, all appointed by the Governor.

2. A permanent commission of five, all appointed by the Governor.
   This commission is supposed to represent the State, the employe, the physician, and the fifth member is the State commissioner of health. The chairman represents the State.

3. A council of seven, appointed by the commission. The chairman represents the State, two each representing employers, employes and physicians.

4. Sub-commissions.
   Probably six for Maryland. Eight members for each sub-commission. The chairmen represent the State. Two each representing employers, employes and physicians. The eighth member in each sub-commission represents the board of health.

5. District committees, one in each insurance district. Two members each for employers, employes and physicians. According to the plan, the State must be divided into districts, in each of which there must be not less than 5000 wage earners subject to the law. In Maryland, district boundaries would probably assume county lines, thereby giving 23 districts, and calling for 138 district committeemen.

6. The State medical supervisory machinery is now completed with some 200 doctors enrolled, and of that total only 52 represent the interests of the panel doctors, and the chairman in every instance represents the State.

The problem confronting the practicing doctor is whether to remain true to the ethics and integrity of his profession and go begging for clientele, or to put on the yoke and wear the brand of the panel doctor, and hustle to be enrolled with as many carrier associations as possible, and contract with them to deliver such service as they require. If the history of panel practice in Germany and England is to be reckoned, then the doctor will barter his medical soul for a mess of pottage. As a panel doctor, he may not declare a man sick and treat him. A carrier examining physician who does not practice must first declare that the insured is sick, and if treated before that time by a panel doctor, it becomes the doctor's treat. He may not give service beyond the limits of contract, except at his own expense. He may not declare a man well. That must be done by the carrier examining physician, and if that physician declares the man well, he may not give him further treatment except at his own expense. He may not prescribe the best remedies, but only the cheapest, and if his prescription runs beyond the small amount allowed, either he or the druggist must stand the loss. He must spend much valuable time recording the vast detail of his panel activities, have his service account checked by the wage earners, and then vised by the examining physician and audited by each carrier's paymaster. Disputed accounts, and there are thousands of them, must go to committees or commissions, and frequently he must attend hearings, not only in defense of his own accounts, but in support of the claims of the insured. He is between the devil and the deep sea with dishonest and malingering claimants, and the panel doctor of fearless uprightness soon discovers that he is seldom chosen. We prefer no direct charge, but history shows that 1/3 of the doctors control 4/5 of the practice.

The future of medical practice certainly looks dark when we stop to consider that a doctor must study hard from four to six years and spend from $5000 to $10,000 in order that he may qualify to earn a living, the average compensation under compulsory health insurance amounting to but a little more than our common laborers receive today, while his hours will be twice as long and his responsibility 50 times as great. A panel doctor becomes a five-and-ten-cent store of medical knowledge, and his success depends upon the number served, but not upon the quality of the service or the results accomplished. In considering compulsory health insurance, we are forced to take the view that medical practice in this country is approaching the point where the road divides, and it can proceed with honor and profit along that branch which is a continuance of the present, or it can turn

down the other branch and become involved in the chaos, disrepute, unprofitableness and discontent investing Germany and England today.

There are two questions as you face this approaching crisis. What is your duty as citizens of Maryland? What is your obligation to your honorable profession?

In conclusion, I submit that all dependable authorities and special investigators who have studied the effect of compulsory insurance abroad are united in condemning the measure as being merely palliative and of devitalizing the best fiber of the nation; of creating thousands of pensioners; of breeding corruption in the fields of industry, medicine and politics.

In Germany, such authorities as Dr. Friedensburg, for years at the head of the German system; Ludwig Bernhardt, professor of political economy, University of Berlin; Wollenweber, Naegell, Hoche, von Posadowsky, Neue, Dr. Manes and Herr Delbruck all denounce Germany's system as a failure and harmful to the people. In England, Sidney Webb as chairman of an investigating committee of 95 members; *The Hospital,* one of the foremost British publications; Honorable Francis Neilson, ex-member of Parliament; Harold Begbie of the *London Chronicle;* W. H. Dawson, Colson, Villard and Collier point out the system's fatal weakness. In the United States, Gompers, Stone, McCarthy, Frayne and other national labor leaders; Frederick L. Hoffman, statistician of the Prudential; Dr. Lee K. Frankel, third vice-president of the Metropolitan; Magnus W. Alexander, secretary of the National Industrial Conference Board; Jesse S. Phillips, superintendent of insurance, New York; James W. Gerard, ex-Ambassador to Germany, all have studied the subject deeply and are authors of strong negative arguments. The Chicago Medical Society, New York County Medical Society, Illinois Medical Society, Section on Preventive Medicine of the American Medical Association, the New York Chamber of Commerce, the National Civic Federation, the Massachusetts Legislative Committee, and every other unprejudiced body that has been called upon to investigate, has brought in and passed resolutions condemning social insurance.

We are in the midst of the greatest war of all time to destroy Kaiserism. Its cost will create a burden of $500,000,000 of debt as Maryland's portion, and we know not what reconstruction may be necessary when it is over. War exigency is compelling our indulgence in temporary autocratic power and expedient, to which the spirit of patriotism rallies, but against which the spirit of democracy makes future reservation. Shall we, therefore, while waging this war for national and personal liberty, give consideration to socialism, paternalism, Germanism or Kaiserism?

DOUBLE RECURRENT AND BILATERAL TUBAL PREGNANCIES.

AN ANALYSIS OF 89 CASES REPORTED IN THE LITERATURE AND THREE UNPUBLISHED PERSONAL CASES.

By Aimé Paul Heineck, Chicago, Illinois.

Extra-uterine pregnancy is one of the most important maladies of the child-bearing period. It occurs in all races, appears to be less frequent in the colored, "four negresses in 169 cases." The condition, though more frequently recognized than heretofore, is, nevertheless, too often overlooked, misdiagnosed and, therefore, mistreated. The safety with which the abdomen is now opened affords opportunity for the recognition, study and relief of many conditions which previously escaped detection. A more complete understanding of tubal gestation will lead to the saving of lives and to the prevention of invalidism.

Tubal gestation is by far the most common variety of ectopic pregnancy. It is single, double, or multiple; unilateral or bilateral. It may be a woman's first and last conception; it may be preceded by a long period of infertility; it may end a woman's child-bearing career; it may make future pregnancies impossible; it may precede or follow a normal pregnancy or pregnancies. It has preceded and has followed uterine abortions. Tubal pregnancy may co-exist with a uterine pregnancy. It can occur in the absence of other pathological states of the pelvic or other organs. Its occurrence in one tube does not protect against its occurrence in the opposite tube; does not absolutely protect against its recurrence in the same tube.

Double and recurrent tubal pregnancies have not received adequate study and consideration. To facilitate the task of future investigators, I have collected, studied and analyzed all cases of double and bilateral tubal pregnancies reported with sufficient data in the English, French and German literature from 1908 to 1916, inclusive. Only original reports of cases in which the diagnosis was verified at operation were considered. The statements made in this article are entirely based either on these reported cases or on our unpublished personal cases.

Double tubal pregnancies are almost invariably bilateral; exceptionally unilateral.

Double and bilateral tubal pregnancies are either simultaneous or recurrent. If simultaneous, both conceptions begin at or about the same time; both gestations may develop, or one may be interrupted and the other continue. Usually, the two foetal cysts differ in size and destiny. Twenty-nine of the double tubal pregnancies herein considered belong to the simultaneous group. One double tubal gestation occurred in a nullipara 41 years old, another in a multipara 45 years of age. The other simultaneous cases in which the age was recorded tabulate as follows:

From 20 to 24, inclusive, 3 cases, 10.34 per cent.
From 25 to 29, inclusive, 11 cases, 37.93 per cent.
From 30 to 34, inclusive, 7 cases, 24.13 per cent.
From 35 to 39, inclusive, 4 cases, 13.79 per cent.

As previously stated, the recurrent type is by far the most frequent (63 cases). Almost always, the recurrence is in the opposite tube. Recurrence of gestation in the same tube is a rarity.

The ages of the patients at the time of the second tubal gestation and percentage incidence as to age is shown by the following table:

From 20 to 24 years, inclusive, 3 cases, 4.76 per cent.
From 25 to 29 years, inclusive, 20 cases, 31.74 per cent.
From 30 to 34 years, inclusive, 20 cases, 31.74 per cent.
From 35 to 39 years, inclusive, 7 cases, 11.11 per cent.

Comparison of the two previous tables with the following reveals that the age incidence of tubal gestation is not the same as that of uterine gestation.

Normal Births in Chicago, Based on 3600 Cases (Redfield)

From 20 to 24 years, 31.95 per cent.
From 25 to 29 years, 29.72 per cent.
From 30 to 34 years, 18.64 per cent.
From 35 to 39 years, 10.14 per cent.

Double and bilateral tubal pregnancies can occur at any period of the child-bearing age. We do not know how often tubal pregnancy recurs; we do not know why it occurs. Authors are not agreed as to the frequency of recurrence. The frequency of recurrence in the practice of various clinicians is shown by the following table:

Hunner . . . . . 31 cases of tubal gestation, 2 recurred.
Madlener . . . . . 63 cases of tubal gestation, 3 recurred.
Heineck . . . . . 70 cases of tubal gestation, 3 recurred.
Lothrop . . . . . 83 cases of tubal gestation, 3 recurred.
Rosenstein . . . . . 100 cases of tubal gestation, 6 recurred.
Horrman . . . . . 101 cases of tubal gestation, 5 recurred.
Wertheim . . . . . 120 cases of tubal gestation, 7 or 8 recurred.
Finsterer . . . . . 133 cases of tubal gestation, 9 occurred.

One ectopic pregnancy is not necessarily followed by another ectopic pregnancy. Normal pregnancies may be sandwiched in between two extra-uterine gestations.

Months, or even years, may elapse between the incidence of pregnancy in one tube and the lodgment of an impregnated ovum in the opposite tube. Some authors reckoned the time interval either between the inception of the two abnormal pregnancies or between the two operations performed for their relief. The latter method is basically faulty.

In our collected cases, the interval between the two tubal gestations varied from three months to nine years. In 21 cases,

tubal gestation recurred within one year; in 12, within three years. In some cases, the time interval between the two tubal gestations was four years, five years, seven years and seven months; in others, the time interval was not definitely stated.

Double, recurrent and bilateral tubal pregnancies occurred in women who have never borne living children. Tubal pregnancy has recurred in women who have borne one living child, two children, three children, four children, five children and six children.

Double, recurrent and bilateral tubal pregnancies like other varieties of ectopic gestation not infrequently occur in women who though frequently exposed to pregnancy have remained sterile. In many cases, a long period of sterility precedes double, or intervenes between two tubal gestations.

The cause of tubal pregnancy, whether single, double or recurrent, is not definitely known. Many hypotheses have been advanced, some very plausible, none of universal application. No causative factor present in every case has been demonstrated. Not uncommonly, co-existing pathological states are found. Are these pathological states co-incidental or etiologic factors?

With the data at hand, a positive answer is not possible. The problem calling for solution is, why does the impregnated ovum fail to find its way into the uterus.

Inflammatory and other degenerative changes of the tubal wall do not possess the important etiological role formerly attributed to them. Though all conditions that obstruct, delay or hinder the progress of the impregnated ovum to the uterus favor the occurrence of ectopic gestation, still many cases occur in which the existing tubal gestation excepted there is a total absence of pathological tubal or ovarian changes, congenital or acquired. Actual examination at time of operation has firmly established the fact that an inflammatory condition is not present in all cases. "In a certain proportion of cases the most careful clinical history and microscopical examination of the specimen will fail to reveal a tangible cause for the condition." (Williams.)

It has been believed that the predominant cause of tubal pregnancy is salpingitis, post-abortum, post-partum or gonorrheal in nature, with resulting destruction of the tubal ciliated epithelium. "I have been able to demonstrate the presence of cilia in nearly every pregnant tube which I have examined." (Williams.)

In some cases, the presence of co-existing pelvic pathological states is recorded, cyst of parovarium, ovarian cyst, polycystic degeneration of left ovary.

In one case Puppel removed the left ruptured and pregnant tube and separated the right adnexa from embedding adhesions. One year later the right tube became pregnant and ruptured. Smith reports a case presenting similar features. Wesenberg, in his case, removed a fist-sized Fallopian tube containing coagula and foetal rests. Examining the thickened right tube and finding its fimbriated end closed, he incised the fimbriated end and sewed

the tubal mucosa to the tubal serosa. One year later this repaired tube became pregnant.

All our collected and personal cases were primarily either interstitial, isthmic or ampullary. All the others were bilateral. These 92 cases represent 185 tubal gestations. Not one of these pregnancies, either first or second, went to full term.

Sixteen gestations were subjected to operative relief previous to tubal abortion or tubal rupture.

Thirty-two tubal gestations terminated in abortion; 75 in rupture. In the remaining cases the termination is either not recorded or not definitely stated. Termination depends in great part upon the implantation site of the ovum, thus in the isthmic form, this portion of the tube not admitting of much distention, early rupture is the rule. In the ampullary form, the tubal wall offering less resistance in the ampullary region to the growth of the ovum, abortion is the rule. Tubal abortions are due to rupture through the capsular membrane; they are incomplete, or complete, the incomplete being the more common. Complete tubal abortion implies complete expulsion of the ovum, membrane and contents into the peritoneal cavity by way of the abdominal ostium of tube. In the complete type there is a partial loosening of the ovum from the tubal wall, and only parts of the ovum pass into the peritoneal cavity. In incomplete tubal abortion the hemorrhages recur, as evidenced by repeated colicky pains, laminated clots. Tubal abortion has been appropriately designed by some authors as intra-tubal rupture.

Rupture, extra-tubal, occurs at or near the placenta site, taking place either into the peritoneal cavity or between the folds of the broad ligament. Primary rupture of the ovum, in by far the larger number of cases, occurs previous to or about the eighth week; in a few cases it occurs later. It may involve any portion of the tube, isthmic, middle third ampullary, and vary in size from a pin point to a tearing asunder of the entire tube. Even a pin-point rupture may cause a fatal hemorrhage. In the only case of this series in which hemorrhage apparently caused death the rupture was a small orifice on the free portion of tube through which chorionic villi projected. The tubal tissues in contact with the ovum offer slight resistance to the fetal elements, and being early invaded by the chorionic villi and fetal cells, the pregnant tube soon undergoes degenerative changes. The tubal wall is weakened both by the continuous and gradually increasing distention exerted by the growing ovum and by the erosive action of the fetal elements upon the maternal tissues. The tubal resistance being thus impaired, rupture is easily brought about either by direct perforation by the growing villi or by any sudden opening of a large vessel, by the clogging of venous channels, or by slight external violence as vaginal examination, coitus, fall, etc.

Bilateral tubal gestation may terminate in tubal rupture in one tube and in tubal abortion in the other.

Tubal abortion and tubal rupture, be the latter intra or extra-tubal, are associated with moderate or profuse internal hemorrhage, either in the lumen of the Fallopian tube, between the folds of the broad ligament or into the peritoneal cavity. When capsular rupture takes place in a tube with closed fimbricated end, and hematosalpinx results. If the rupture involves a part of the tube not covered by peritoneum, an intra-ligamentary hematoma results. The duration and extent of the hemorrhage will determine the size of the hematoma. When the pressure of the surrounding tissues and extravasated blood equals or exceeds the intra-vascular pressure, all further hemorrhage is checked. In tubal abortion, and in tubal rupture of a portion of the tube covered by peritoneum, the hemorrhage may be moderate and circumscribed, an hematocele results; may be profuse and diffuse, an hemaperitoneum results.

When hemorrhage takes place into the free peritoneal cavity, a practically limitless space, the patient may bleed to death without a drop of blood appearing externally. These profuse hemorrhages into the peritoneal cavity are designated by the French "inondation peritoneale."

Blood extravasated in the lumen of the tube, between the folds of the broad ligament or in the peritoneal cavity, either undergoes absorption, coagulation, organization, cyst-formation, or suppuration.

FATE OF THE OVUM.

The ovum lodged in a tube being always poorly fixed, poorly nourished, most tubal pregnancies come to an end previous to the eighth week. When tubal gestation ends this early, be the termination due to ovular apoplexy, tubal abortion or tubal rupture, the ovum is absorbed. This is the fate of young embryos extruded into the peritoneal cavity, if they be not removed by the surgeon. When, after tubal abortion or tubal rupture, the placenta retains some tubal implantation and contracts new attachments to the pelvic wall, rectum or other viscus or viscera, the placental circulation thereby continuing, the pregnancy becomes tube-abdominal or tube-peritoneal in type. Absorption is more difficult after the third month.

In many operations for early tubal gestation, the embryo is found in the tube or in the abdominal or peritoneal cavities. This occurred in 19 of our patients in which there were found either in the tube or in the peritoneal cavity, one, two, and in one case three fetuses. Most of these were found at the time of the second gestation. The fetuses varied in size from 3 mm. to 20 cm.

Ovular debris, placenta, decidual cells, fetal rests, chorionic villi, etc., are more frequently found at time of operation than foetuses. In 24 cases, the presence of inflammatory adhesions binding the pregnant tube to the pelvic wall, to the omentum, to the caput coli, etc., is recorded. These adhesions, rarely found at

the time of the first operation, are not uncommonly noted in operations for recurrent tubal gestation.

The symptoms of tubal gestation, like those of uterine gestation, can be classified into presumptive, probable and positive. The positive symptoms of pregnancy—fetal heart sounds, active and passive fetal movements, palpation of fetal parts—are usually not detected until after the fourth month of gestation. Now, as 81 per cent. of tubal gestations terminate before, at or about their eighth week, it can be seen that the positive signs of tubal pregnancy, corresponding to the positive signs of uterine pregnancy, are rarely present and, therefore, rarely detected. In not one of our cases were any of the positive signs of pregnancy present.

Previous to tubal abortion and to tubal rupture presumptive signs of pregnancy, such as amenorrhea, nausea and vomiting, bluish discoloration of vaginal walls, pigmentation and striae, urinary disturbances, were noted in many of the cases. Amenorrhea is so constant a symptom in tubal pregnancy that its absence is misleading. In 29 cases of simultaneous double tubal pregnancy a cessation of the menses for a varying period is recorded in 27 cases. In the remaining two cases, amenorrhea is not recorded as present or absent; there was vaginal hemorrhage in both, but from the test it is hard to tell whether this uterine hemorrhage was or was not a menstrual hemorrhage. Menstrual irregularity should arouse suspicion.

In the bilateral cases in which gestation was of successive occurrence, cessation of the menses occurred, with few exceptions. The duration of the suppression, of course, varies according to the age of gestation. In some in which amenorrhea is not noted, what was mistakably considered menstrual hemorrhage was a uterine flow incident to the termination of the tubal pregnancy.

Other presumptive symptoms, such as nausea and vomiting, colostrum secretion, milk secretion, bluish discoloration of the vaginal wall, enlargement of breasts, etc., are less frequently recorded.

Among the probable signs, the most frequently noted in our series were changes in size, consistency and position of the uterus. "The existence of an enlarged uterus at any time during the child-bearing period should be regarded as presumptive evidence of pregnancy until such a possibility has been conclusively eliminated." (Williams.)

The victim of ruptured tubal gestation is not as a rule struck down without premonitory symptoms or warning. Patient suspects pregnancy. Suspicion of ectopic gestation should be entertained upon the complaint of sudden pelvic pain in a woman of child-bearing age. The most characteristic symptoms that confront the clinician are those determined by tubal rupture or by tubal abortion. Both of these accidents are associated with pain and with internal hemorrhage, the extent of which determines

the gravity of the case. Very often the patient first comes into the hands of the physician some time after she has recovered from the primary shock due to tubal rupture or tubal abortion.

In tubal abortion there may be acute, severe, cramp-like pain, limited to the pelvic region or referred to other portions of the abdomen; there may be absence of pain. In many cases of tubal abortion about the only symptoms we have is abdominal pain and uterine colic preceding and accompanying the expulsion of the decidual cast. In tubal rupture, the pain is intense, agonizing, may cause the patient's collapse. It is most marked in the lower abdomen and may be referred to the right side, to the left side, to right kidney region, to the rectum, epigastrium, umbilicus.

Coincident with the lodgment and development of the ovum, the uterus, during the first three months of tubal gestation, undergoes hypertrophy and its endomentrium becomes converted into a decidua similar to that observed in uterine pregnancy. Soon after the death of the fetus, the decidua is thrown off, being expelled in shreds, or as a triangular cast of the uterine cavity, with dimensions corresponding to that of the hypertrophied uterus. According to Remy, the expulsion of a decidual cast of the uterine cavity is always a sign of ectopic pregnancy.

Though tubal pregnancy, and especially bilateral tubal pregnancy, are frequently operative discoveries, the diagnosis being rarely made previous to tubal abortion or tubal rupture, the following symptoms, taken in conjunction with a suggestive history and suggestive pelvic findings, should make one think of the possible existence of tubal gestation.

a. Presence of the presumptive symptoms and signs of pregnancy; morning sickness, milk and colostrum secretion, pelvic pains referable to bladder and rectum.
b. Cessation of the menses.
c. Bluish discoloration of the vaginal wall.
d. Softening of the cervix.
e. Changes in size, consistency and position of uterus.

The existence of ectopic pregnancy is highly probable when, in association with the above, palpation reveals an indefinitely outlined tender, boggy mass to one or both sides of uterus, in a patient who has or has had symptoms of acute anemia and attacks of acute abdominal pain, especially if the abdominal tumor has increased in size with each attack of abdominal pain.

If, during an intermenstrual period with or without a suppression of the menses, a woman has an attack of severe abdominal pain followed by vomiting, collapse, slight uterine hemorrhage, think of tubal abortion. If after a few days or a few weeks the same clinical picture recurs, suspect the existence of a bilateral tubal pregnancy.

The severe pain of tubal rupture is accompanied or followed by symptoms of abdominal hemorrhage and acute anemia, pallor, dizziness, nausea, collapse, weak thready pulse. A definite mus-

cular rigidity is noted by several reporters. In almost all cases associated with the above, vaginal hemorrhage varying in amount, slight profuse, and in duration three weeks, six weeks, is said to have been present. These attacks of pains and vaginal hemorrhage, anemia may be repeated. Bimanual vaginal examination usually detects an elastic, often globular, tumor-mass to one or other side of uterus, or peri-uterine mass occupying the cul-de-sac of Douglas and the two lateral cul-de-sacs, and in a few instances even extending into the iliac fossa. Previous to rupture or abortion, the fetal cyst may displace the uterus in various directions to the right, to the left, forward.

The treatment of ectopic gestation previous to, at time of or after tubal rupture or abortion is operative. As stated in some of our previous publications on this subject, we disregard completely the life of the ectopic fetus and concentrate our efforts to saving the maternal health and the maternal life. The ectopic fetus, in all its various forms and at all periods of its existence, is a distinct menace to the maternal organism. Operation removes in a few minutes what it will require nature unaided, even in the most favorable cases, a long time to accomplish, and thereby early secures the safety of the patient.

The operation for the relief of ectopic pregnancy, for the control of its complications and the cure of its sequela, may be an emergency operation, may be one giving us time for ample preparation of the patient. In a general way it can be said that an ectopic gestation is a malignant growth, and the longer it is unmolested, the greater are the dangers to the mother.

In cases of tubal rupture and also in cases of tubal abortion associated with symptoms of abdominal hemorrhage, operative relief must be immediately instituted. Patient can bleed to death into the peritoneal cavity without a drop of blood appearing externally. Peritoneal flooding calls for immediate intervention. Operation is equally indicated previous to tubal abortion or tubal rupture, but under those conditions if the patient is vigilantly watched delay of two or three days is not very significant.

In all operations for ecoptic pregnancy, we discard the vaginal route. We prefer the abdominal route. Most diagnostic mistakes are common conditions that stimulate unilateral or bilateral ectopic pregnancy, require for their cure an abdominal section: appendicitis, hydrosalpinx, pyosalpinx, ovarian cyst, sub-peritoneal uterine fibriad. If these conditions were mistakenly diagnosed ectopic gestation, no harm has been done. The laparotomy enables one to remove them. If they co-exist with a tubal gestation, laparotomy enables one to appropriately treat both conditions. We are justified in making our diagnosis and basing our management of cases upon presumptive evidence. A large majority results from delayed diagnoses.

The most immediate danger of tubal abortion or tubal rupture is hemorrhage. Laparotomy permits an immediate and complete arrest of hemorrhage. Colpotomy permits an evacuation of

blood clots. If the blood accumulation has acted as a tampoon, its mere evacuation may be followed by a recurrence of the hemorrhage. Laparotomy not only secures absolute hemostosis, but enables one to eliminate the danger of post-operative or secondary hemorrhage.

Laparotomy permits a more complete removal of ovular debris and extravasated blood. It is not necessary to remove all blood from peritoneal cavity. Let there be no needless traumatizing. Furthermore, it allows inspection of the pelvic organs and enables one to decide at once whether or not the opposite tube should be removed.

Unilateral tubal pregnancy calls for removal of the pregnant tube. The operator must not be haunted by the thought of recurrence. Recurrence in the opposite tube is exceptional.

We are not justified in sterilizing a woman just because she has had a tubal gestation. Remove the unaffected tube:

a. If there be existing in the patient some constitutional state contra-indicating pregnancy, such as epilepsy, alcoholism, worst types of neurasthenia, syphilis, mental disease, imbecility, advanced tuberculosis, advanced cardiac or hepatic disease, renal, bad types of primary anemia.
b. If there be existing in the patient some pelvic deformity preventing delivery through the maternal passages of a viable fetus.
c. If it be imbedded in adhesions, if it be malformed or the seat of a congenital anomaly or of inflammatory neoplastic or other degenerative changes; hydrosalpinx, posalpinx, etc.

Do not remove the unaffected tube unless there be existing in the patient a condition contra-indicating pregnancy. There are many cases on record where a normal pregnancy has occurred after the ablation of a Fallopian tube.

In unilateral tubal pregnancy and in bilateral tubal pregnancy there should be no needless removal of tissues or organs. Therefore, if the ovaries are normal or only slightly altered, their preservation will be of great benefit to the patient. In addition to removing pregnant tube, fetus and ovular debris, if the patient's condition permits, correct co-existing pathological states. Many operators in addition to performing a bilateral salpingo-oopherectomy, supra-vaginal, or a total hysterectomy, broke up inflammatory adhesions, or removed the appendix vermiformis presenting acute or chronic inflammatory changes. Others removed a co-existing cystic ovary, a cyst of parovarium.

In our tabulated cases there were removed 42 left and 47 right Fallopian tubes. In 15 cases it is stated that the left ovary was removed. The right ovary was removed 22 times. In a few other cases portions of the ovary were removed. In 6 cases the conditions were such that the operators were compelled to perform either a total or sub-total hysterectomy. In 15 instances

abdominal drainage was used; in 3 instances vaginal drainage was used. It may be said that as a general rule the use of drainage in these cases is inadvisable.

LITERATURE.

1. Kennedy, J. W., *New York Medical Journal*, Vol. XC, pp. 61-64, 1909.
2. Marr, F. T., *Ohio Medical Journal*, Vol. V, pp. 318-23, 1909.
3. Remy, S., *Rev. Med. de l'est Nancy*, Vol. XLII, pp. 321-25, 1910.
4. Frere, F., *Presse Med. Belge*, Vol. LXVI, p. 393, 1914.
5. Matthieu, *Le Scalpol*, Vol. LXIV, p. 49, 1911.
6. Lambert, *Bull. Soc. d'obst. et Gynec. de Par.*, Vol I, pp. 892-8, 1912.
7. McDonald, *Jour. A. M. A.*, Vol. LX, pp. 1766-69, 1913.
8. Hirsch, Max, *Frauenarzt, Leipzig*, Vol. XXVII, pp. 338-50, 1912.
9. Cameron, S. J. M., *Glasgow Medical Journal*, Vol. LXXI, pp. 34-39, 1909.
10. Johnson, Geo. W., *Lancet, London*, Vol. II, p. 869, 1915.
11. Basham, D. W., *Western Surg. and Gyn. Assn.*, p. 281, 1909.
12. McCalla, L. P., *Surg. Gyn. and Obst.*, Vol. VIII, pp. 248-54, 1909.
13. Labhardt, A., *Beitrag Zur Begurts. u. Gynack.*, Vol. XIV, pp. 156-61, 1909.
14. Laurell, B., *Mitt. a. d. Gynak. Klin.*, Vol. VII, pp. 141-45, 1907-8.
15. Launay, P., *Rev. de Chirurgie Paris*, Vol. XLIII, pp. 401-19, 1911.
16. Wilson, T. C., *Australas. Med. Gaz.*, Vol. XXIX, pp. 187-9, 1910.
17. Williams, *Texa Book of Obstetrics*, 1911.
18. Coues, W. P., *Boston Med. and Surg. Jour.*, Vol. CLXIV, pp. 677-81, 1911.
19. Smith, R. R., *Tr. Amer. Gynec. Soc.*, Vol. XXXVI, pp. 425-52, 1911.
20. Rosenstein, M., *Monotscher. f. Geburst. u. Gynak. Berl.*, Vol. XXXII, pp. 435-43, 1910.
21. Coffey, R. C., *Western Surg. and Gyn. Assn.*, p. 281, 1909.
22. Vautrin, *Gynecologic, Paris*, Vol. XV, pp. 435-48, 1911.
23. von Lingen, L., *Zentralblatt für Gynak., Leipzig*, Vol. XXXVII, p. 901, 1913.
24. Frank, A., *Berl. klin. Wchschr.*, Vol. XLVIII, p. 429, 1911.
25. Puppel, E., *Monatschr. f. Geburts, u. Gynak.*, Vol. XXIX, pp. 352-56, 1909.
26. Barkley, A. H., *Kentucky Medical Journal*, Vol. VII, p. 752, 1908-9.
27. Murphy, J. B., *Surg. Clin.*, Vol. V, pp. 505-19, 1916.
28. Rabinovitz, M., *American Journal Obst.*, Vol. LXIV, pp. 238-50, 1911.
29. McGuire, S., *Old Dominion Jour. Med. and Surg.*, Vol. XVI, pp. 14-18, 1913.
30. Stone, *American Journal Obst.*, Vol. LXIX, p. 165, 1914.
31. Andrews, A., *Australas Med. Gaz., Sydney*, Vol. XXXIII, p. 232, 1913.
32. Dougal, D., *Jour. Obst. and Gyn., Brit. Empire*, Vol. XXV, pp. 154-58, 1914.
33. Keyes, John M., *New York Medical Journal*, Vol. XCII, pp. 252-7, 1910.
34. Oden, R. J. S., *Jour. Mich. Med. Soc.*, Vol. XIV, pp. 104-6, 1915.
35. Lenormant, *Paris Chirurg.*, Vol II, pp. 26-34, 1910.
36. Gerschun, M., *Zentralbl. f. Gynak.*, Vol. XXXIV, pp. 1642-45, 1910.
37. Siefart, G., *Zentralbl. f. Gynak.*, Vol. XXXIV, pp. 1113-15, 1910.
38. Terrington, H. M., *Canadian Med. Assn. Jour.*, Vol VI, p. 232, 1916.
39. Butler-Smythe, *Jour. Obst. and Gynak., Brit. Empire*, Vol. XXV, pp. 74-9, 1914.
40. Wesenberg, W., *Zentralbl. f. Gynak.*, Vol. XXXV, p. 1716, 1916.
41. Craig, G., *Australas. Med. Gaz.*, Vol. XXIX, pp. 352-57, 1910.
42. Amderodias, *Jour. de Med., Bordeaux*, Vol. XLIII, p. 610, 1913.
43. Collins, E., *Proc. Royal Soc. Med. Lond.—5 Obst. and Syn. Sect.*, p. 374, 1911-12.
44. Findley, P., *Trans. Amer. Gyn. Soc.*, Vol. XXXV, pp. 26-31, 1910.
45. Lothrop, E. P., *New York Medical Journal*, Vol. CIV, pp. 735-39, 1916.
46. Whitehouse, B., *Jour. Obst. and Gynaec., Brit. Emp.*, Vol. XXIV, p. 306, 1913.
47. Le Lorier, M. V., *Bull. Soc. d'obst. et de Gynec. de Paris*, Vol. II, p. 319, 1913.
48. Hamilton, J. W., *Lancet. Clinic, Cincinnati*, Vol. CI, pp. 609-13, 1909.
49. Gordon, Geo. A., *Lancet. Lond.*, Vol. II, p. 101, 1910.
50. Shoemaker, G. S., *Pennsylvania Medical Journal*, Vol. XIII, p. 622-28, 1909-10.
51. Sawkins, F. J. T., *Australas. Med. Gaz.*, Vol. XXVIII, pp. 487, 1909.
52. Davies-Colley, *British Medical Journal*, Vol. I, pp. 480-83, 1912.
53. Phahl, F., *Gynaek. Rundschau*, Vol. VII, pp. 645-7, 1914.
54. Hadden, D., *California State Journal Med.*, Vol. XI, p. 60, 1913.
55. Pellissier, M., *Echo Med. du Nord. Lille*, Vol. XVIII, pp. 43-45, 1914.
56. Bruce, H. S., *Atlanta Journal Rec. Med.*, Vol. XII, pp. 250-57, 1909.
57. Lancaster, L. B., *Australas, Md. Gaz.*, Vol. XXXII, p. 34, 1912.
58. Russell, L. E., *Eclect. Med. Jour., Cinn.*, Vol. LXIX, pp. 463-65, 1909.
59. Kastanajoff, G. M., *Int. Abs. Surg.*, Vol. XVIII, p. 166, 1914.
60. Peterson, R., *Psysician and Surgical Dct.*, Vol. XXXIV, pp. 180-82, 1912.
61. Braham, N., *Brit. Med. Jour. Lond.*, Vol. II, p. 239, 1914.
62. Milligan, E. T., *Jour. A. M. A.*, Vol. LVIII, p 114, 1912.
63. Oliver, J., *Brit. Med. Jour.*, Vol. II, p. 1653, 1911.
64. Wenzel, *Zentralbl. f. Gynak.*, Vol. XXXV, p. 588, 1911.
65. Proust, *Bull. et Mem. Soc. Anat. de Paris*, Vol. LXXXV, p. 118, 1910.
66. Sussman, F., *Munch. Med. Wchnschr.*, Vol. LVII, pp. 1341-43, 1910.
67. Kutz, A., *Deutsche Med. Wchnschr.*, Vol. XXXVI, p. 1349, 1910.
68. Ford, M. J., *West. Med. Rev., Omaha*, Vol. XVIII, pp. 123-134, 1913.
69. Hunner, G. L., *Amer. Jour. Obst.*, Vol. LXII, pp. 409-20, 1910.
70. Ballard, C., *Post-Graduate*, Vol. XXIII, pp. 929-32, 1908.
71. Unterberger, F., *Monatschr. f. Gaburts. u. Gynak.*, Vol. XXXVIII, pp. 247-51, 1913.
72. Davidson, G., *Munch. Med. Wchnschr.*, Vol. LIX, pp. 145-47, 1912.
73. Barthelemy, *Bull. Soc. d. Obst. et de Gynec. de Paris*, Vol. I, pp. 1028-30, 1912.
74. Crandon.

REPORT OF BOARD OF MEDICAL EXAMINERS OF MARYLAND.

QUESTIONS AT THE DECEMBER (1917) EXAMINATIONS.

SURGERY.

1. Give the differential diagnosis between acute catarrhal conjunctivitis and gonorrheal ophthalmia.

2. Give symptoms and treatment of acute catarrhal otitis media.

3. Give symptoms and treatment of tuberculosis of the hip joint.

4. What technique and treatment would you employ for a gunshot wound of the leg?

5. What do you understand by a Colles fracture? Give signs, symptoms and treatment.

6. What are the symptoms of a chronic luxation of a semi-lunar cartilage of the knee joint? Give treatment.

7. Describe rodent ulcers. Give their common locations and treatment.

8. Name the varieties of goitre and mention the indications for surgical interference.

9. What is the most frequent dislocation of the shoulder? Give diagnosis, two methods of induction, with after-treatment.

10. Give diagnostic characteristics of (a) varicose, (b) tubercular, (c) luetic ulcer.

OBSTETRICS AND GYNECOLOGY.

1. What changes occur in the breasts during pregnancy?

2. How can you predict the day of confinement?

3. Give some of the causes of abortion and premature labor.

4. In the case of twins, how can you tell from the placenta whether they are from the same ova or from different ones?

5. What is strictura uteri, and what is its treatment?

6. What are some of the dangers of precipitate labor?

7. What is the chief cause of hemorrhage prior to the time of labor, and what is your treatment for this condition?

8. Under what conditions would you do an internal podalic version, and describe in detail how you would perform it?

9. Give treatment of vaginitis of pregnancy.

10. Differentiate between a sloughing myoma and a cancer of the uterus.

PRACTICE.

1. Give the differential diagnosis between measles and scarlet fever. What complications are likely to accompany or follow scarlet fever, and give their treatment.

2. Give the symptoms, physical signs and differential diagnosis of acute lobar (croupous) pneumonia.

3. Give the etiology, diagnosis and treatment of cirrhosis of the liver.

4. Give the clinical symptoms, laboratory findings and differential diagnosis of Hodgkin's disease.

5. Describe in detail how you would manage a case of typhoid fever so as to prevent its spreading. Tuberculosis. Diphtheria.

6. What is psoriasis? Give its symptoms and treatment.

7. Give the causes, clinical symptoms and treatment of arteriosclerosis.

8. Give the symptoms and treatment of chorea.

9. Give the causes, symptoms and treatment of acute ileocolitis in a child one year of age.

10. What are the chief causes of convulsions in children and infants?

PATHOLOGY.

Give pathology of:

1. Acne vulgaris.
2. Acute otitis media.
3. Pernicious anemia.
4. Angina pectoris.
5. Locomotor ataxia.
6. Tuberculus meningitis.
7. Acute nephritis.
8. Dental caries.
9. Reynaud's disease.
10. Duodenal ulcer.

PHYSIOLOGY.

1. State causes of pressure in the arteries, capillaries and veins.

2. Name some of the bodily states which lessen the alkalinity of the blood.

3. Describe the process of osmosis and give examples in the human economy.

4. (a) Name the secretions of the alimentary canal, their reactions and functions. (b) Name the active principles of the digestive secretions.

5. (a) Describe bile and its uses, where first found. Trace its course. (b) Name the bile salts.

6. State the general classes into which foods are divided, and give examples of each.

7. (a) What are the functions of the skin and its appendages? (b) What matters are excreted by the skin? (c) How may the function be affected as to the amount of excretions?

8. (a) Describe the functions of the kidneys. (b) Do both kidneys constantly act? (c) How does the impairment of the functions of the kidneys affect that of the skin and lungs? (d) Give the variations within limits of health in the specific gravity of urine.

9. Describe nerve-cells and fibers.

10. (a) Define reflex action, and give example. (b) Give illustrations of morbid reflex action.

MATERIA MEDICA.

1. Tartar emetic. The official preparation and dose as an expectorant and as an emetic and the incompatibles.

2. (a) Name six official preparations of mercury. (b) Name two alkaloids of opium.

3. (a) Give the official name and dose of Epsom salts, Rochelle salts and Glauber's salts. (b) State strength of dilute hydrochloric acid as compared to absolute acid.

4. What is incompatibility in medicines, and what are the different kinds of incompatibles? Give example of each.

5. How does an antagonist differ from an antidote? Give examples.

6. (a) Define briefly electricity as a remedial agent. (b) Define massage.

7. (a) Name the official preparations of zinc. (b) Mention the alkaloids of nux vomica.

8. Name a vesicant derived from the animal kingdom, one derived from the vegetable kingdom, and one from the mineral kingdom.

9. (a) Define antiseptics. (b) Name two intestinal antiseptics most generally used. (c) Name three most generally used externally.

10. Define toxins and antitoxins, and mention some conditions in which serum therapy has proven successful.

THERAPEUTICS.

1. Name four salts of sodium and special uses.

2. Write two prescriptions in official terms, without abbreviation, containing three ingredients; one a stomachic, the other for acute rheumatism.

3. Therapy of nux vomica—preferable preparations, and mode of administration.

4. Acid tannicum—therapy and preferable preparations.

5. Emetinae hydrochloridum—therapy and administration.

6. Epinephrina—therapy and administration.

7. Paraffinum—therapy and method of use.

8. Therapy of hydg. bichlor. and hydg. chlormite.

9. Three salts of ammonium—therapy of each.

10. Therapy of belladonna — symptoms of overdose and treatment.

ANATOMY.

1. Define marrow, periosteum, compact and cancellous bone, epiphysis, diaphysis.

2. Bound the superiod carotid triangle, and name the contents of same.

3. Name the organs of generation in the male and female, and describe the ovary.

4. Define hernia, and name and locate all hernias which occur in abdomen (not traumatic).

5. State what muscles enter into the formation of (a) anterior wall and (b) floor of pelvis.

6. State definitely the result of cutting in living subjects the following nerves: Radial, peroneal, pudic, anterior femoral (below Poupart's ligament).

7. What anatomical structures pass through the sphenoidal fissure (foramen lacerum anterius).

8. Name salivary glands, and locate orifices of their ducts.

9. Through what vessels does blood pass in going from spleen to under surface of middle toe.

10. Name bones and ligaments entering into formation of ankle joint.

CHEMISTRY.

1. Describe phosphorus, and name and give formula of three (3) of its compounds.

2. Why should solutions of silver nitrate not be employed after irrigations with salt solution? Illustrate by formula.

3. How is chlorine made, and what are its chemical properties?

4. What are simple and what are compound proteids?

5. What is glucose? Why is it sometimes employed in solution intravenously?

6. Name three (3) hydrocarbons, and give formula. Name three (3) carbohydrates, and give formula.

7. What is Fisher's solution? What is its chemical effect when administered by the vein?

8. Describe two (2) important chemical tests used in examining stomach contents.

9. Describe two (2) important chemical tests used in examining urine.

10. What chemicals are used in purifying water for drinkng purposes, and how are they employed?

Summary of Results of Examination Held by the Board of Medical Examiners of Maryland, December 11, 12, 13 and 14, 1917.

No.	College of Graduation.	Anatomy	Surgery	Pathology	Obstetrics	Practice	Chemistry	Materia Medica	Therapeutics	Physiology	Total	Average
1	University of Maryland, '17	81	89	80	76	79	75	90	88	91	749	83
2	University of Maryland, '17	83	78	80	81	81	75	86	84	80	728	81
3	University of Maryland, '17	75	88	80	87	83	75	70	94	75	727	81
4	Meharry Medical College, '16	58	85	75	64	70	50	76	58	55	591	66
5	University of Maryland, '17	89	96	90	92	91	85	88	87	89	807	90
6	College of Physicians and Surgeons, '16	75	..	75	75	..	..	..	76	..	...	..
7	University of Maryland, '17					Failed to Appear.						
8	Johns Hopkins, '17	73	93	80	88	80	76	77	75	87	729	81
9	Johns Hopkins, '17	76	92	78	87	82	85	99	97	82	778	86
10	Johns Hopkins, '14	76	93	83	78	79	85	86	64	90	734	81
11	University of Virginia, '17	67	94	98	90	85	90	86	88	83	781	87
12	University of Maryland, '17	77	97	80	89	81	57	66	90	86	723	80
13	Johns Hopkins, '16	76	83	90	76	84	80	88	97	83	757	84
14	University of Maryland, '17	57	94	85	75	82	75	86	88	85	727	81
15	Medical College of Virginia, '17	64	91	57	74	74	60	63	70	48	601	67
16	College of Physicians and Surgeons, Balto., '17	58	92	82	90	80	75	77	75	52	681	76
17	University of Maryland, '17	66	90	75	86	78	75	75	90	70	705	78
18	University of Maryland, '17		..	..	78	..	60	68	75	75	...	..
19	Chicago College of Medicine, '15	86	89	94	98	88	80	83	96	94	808	90
20	Johns Hopkins, '17	63	91	90	57	71	85	82	64	69	672	74
21	Maryland Medical College, '13	33	..	..	..	..	70	..	..	46	...	..
22	College of Physicians and Surgeons, '15	76	..	75	..	..	75	..	..	..	...	..
23	Howard University, '14	66	85	75	80	75	70	88	97	75	711	79
24	University of Maryland, '17	48	90	91	82	75	75	77	78	78	694	77
25	Medical College of Virginia, '17	50	89	80	76	85	65	86	69	77	677	75
26	Medical College of Virginia, '17	75	92	75	69	75	75	80	79	67	687	76
27	Long Island College, '05	93	93	75	74	79	85	98	98	90	785	87
28	Johns Hopkins, '17	86	94	90	85	85	75	87	87	96	785	87
29	Bennett Medical College, '14		..	75	..	..	75	..	..	..	...	..

In the above summary an average of 75 is required of those participating in the examination for the first time in order to secure a license. Those who have failed are eligible to re-examination at the expiration of six months. They are then obliged to receive a rating of 75 in each branch in which they are re-examined before license can be issued. Under the Maryland laws, students who, at the end of their second year, have successfully passed their college examination in Anatomy, Chemistry, Materia Medica and Physiology are entitled to examination by the Board of Medical Examiners in these branches. The ratings made by these students in the examination known as the "second-year examination" are carried forward and made part of the final examination, when an average of 75 must be obtained to secure a license. We trust that this statement will make clear the apparently incomplete examination of certain participants.

Book Reviews.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Volume IV., Twenty-seventh Series, 1917. Philadelphia and London. J. B. Lippincott Company. Price, $2.00.

Facing war, it is proper that surgical teaching should have a strong bent toward military emergencies. After several clinics in which effort is made in this direction, we meet with two lectures from Switzerland on injuries to the cranium and brain actually received on the battlefield from bullets, shells and other missiles, an article well worth study. This article will be followed by others on the same topic.

The next paper is one on "Multiple Neuritis," in which the most interesting point is the effort made to trace the causation of the disease. Both this and that on "The Neurological Aspect of Mental Backwardness in Children" are unspoken pleas for the discontinuation of the traffic in liquor which leaves these conditions among the acknowledged destructions in its path.

A case of primary tumor of the heart fixes the attention as it was not in its symptoms here overshadowed by those of cerebral embolus, which is one of its usual consequences. In case No. 3 the patient was evidently suffering at the heart—most frightful dyspnea, worse at times, with heart sounds of obscure and shifting quality—with rapid emaciation and weakness, and loud tubular breathing below the left scapula. A "presystolic rolling" sound was also noted. A tumor (egg-sized) was found, postmortem, starting from auricle, almost filling its cavity and projecting through the valve into the ventricle.

There is a paper on "Transfusion of Immunized Blood for Pyemia," by which, it is claimed, 7 out of 8 desperate cases were cured. The last paper is on "The Immobilization of Fractured Limbs in Military Surgery," with many cases from the battlefields of France.

TECHNIC OF THE IRRIGATION TREATMENT OF WOUNDS BY THE CARREL METHOD. By J. Dumas and Anne Carrel. Authorized translation by Adrian V. S. Lambert, M.D. With an Introduction by W. W. Keen, M.D. Paul B. Hoeber, New York. Price, $1.25.

This little book to a large extent presents the technic contained in the larger publication of this same firm. It was originally prepared for the guidance of nurses, and omits all general discussions, giving the technic in a very handy and detailed manner. As a nurse's guide, or for a surgeon who wants simply the technic brought to date, it is preferable to the larger work of Carrel himself. There is a two-way glossary of the terms involved.

Maryland Medical Journal

Nathan Winslow, M.D., *Editor.*

Associate Editors:

Thomas R. Brown, M.D.
Hugh H. Young, M.D.
Richard H. Johnston, M.D.
Jose L. Hirsh, M.D.
A. Samuels, M.D.

BALTIMORE, MARCH, 1918

THE DAKIN-CARREL DRESSING OF WOUNDS.

Those who have followed the work of the Rockefeller Foundation, as in many countries of the world it has founded and promoted institutions and researches for the rescue of nations from endemic disease and their encouragement in sanitary self-help, will not be surprised that the most notable advance in the treatment of the wounded in the present world-war had its origin in a laboratory established by this most remarkable fund.

The world-war had hardly begun when it became evident that its wound-problems were so different from those of any preceding wars that the surgical methods learned in them would be of little value. The Boer war, the Spanish and the Japanese, were fought in territory little affected by artificial manuring, and their wounds were not seriously infected, as a rule, on the battlefield. Cultivated and manured for thousands of years like a market garden, the battlefields of France and Belgium teem with tetanus and other bacilli, often of recent human culture, and every wound is infected in its very making. The battles last many days, and the wounded lie on the ground for days without treatment.

It is stated that as to protection of wounds, first aid treatment by the wounded or their comrades merely keeps out flies, and no more.

Tetanus, typhoid and dysenteric diseases were found to be well under control by modern measures, but the gas bacillus and those

of ordinary infections were present in the depths of all wounds, sure to make their appearance in due time.

The wounds, too, are extraordinarily bruised and ragged, with metal fragments, pushing infected clothing before them, buried in remote depths, and the bones were shattered into minute spicules. Ordinary antisepsis, applicable in former wars, did not reach these depths, and had little restraining influence upon the general infection of the lesion. Wright and his school even discarded all antiseptics and devoted themselves to increasing the natural resistance of the tissues.

In the arena now appeared Dakin and Carrel, the latter applying in a new and remarkably efficient way the chemical solution devised by the former. Apart from all results obtained, their work would be memorable and era-making, in that it attempted to put wound-dressing on a thoroughly scientific basis. Beginning by cutting away all injured tissues which probably were infected or would die, and opening across at intervals in their whole extent and reaming out with the knife the tracks of bullets and other penetrating missiles, laying bare all pockets and removing even the tiniest spicule of foreign body; they next laid upon the bare, blood-staunched tissues small irrigation tubes, perforated with small holes or having openings only at the end, according to the form and location of the wound. Over these tubes, but *never* between them and the tissues, were placed little gauze sheets. At the entrance of the tubes into the wounds were placed pads of gauze sterilized in vaseline, to protect the skin from the somewhat irritating irrigation fluid. The outside ends of the irrigating tubes were next gathered into groups of fours or less on glass tubes with nipples for the rubber attachments, and at the other end these short glass tubes were attached by long rubber tubes to the irrigating vessel. Great care was used in placing the irrigating tubes so that every corner of the wound might be reached by the cleaning fluid, and before leaving the surgeon had the nurse flush the wound slightly to see that all the tubes were clear. (This apparatus, with the solution, are for sale by leading Baltimore dealers.)

Every two hours, day and night, a nurse paused for a moment by the bedside and released the irrigating clamp on the long tube by finger pressure, letting from one to four ounces of Dakin's

solution flow upon the wound. Every day a bacteriological count was taken by smears or cultures of the number of bacteria in a microscopical field, the improvement or standstill being recorded graphically on a printed chart. Any relapse in the daily count led to search for the cause. Absolute sterility of the wound in all parts is not expected, the effort is to learn when the bacteriological life is so scant that the wound may safely be closed; and this effort is so successful in trained hands that the closed wounds usually heal by first intention, or like sterile wounds.

Nor did the efforts after accuracy end here. Each wound was measured by tracings, if superficial, and the area ascertained by planimeter, both of the original extent and of the unhealed part, and from this charts were filled out of the progress of healing. After a few observations the ideal curve for that wound was drawn, and thereafter it was easy for the surgeon to note any deviation from this standard. Deep wounds were filled with liquid and the lessening of the quantity needed to fill was charted. Carrel claims that the cheapness of the Dakin solution, the slight soiling of dressing (pus being almost never present) and the shortening of the illness fully compensate for the expense of the instalment.

All surgeons who have fairly studied the method admit that the results are such as surgery has never known heretofore. They are astonished at the way in which deeply infected wounds of great extent and bruising heal. In compound fractures and joint smashing the renovation and conservation of bone is wonderful. Old suppurating wounds also seem to yield to the method, more slowly, but with certainty.

The slovenly surgeon ought not to meddle with the method, the inattentive nurse will do harm with it. There are unfavorable reports from hospitals which use irritating and inefficient solutions under the label of Dakin's.

We have shown that the method is a great advance in precision. It is worth the while of every reader to get the little book of Carrel's now in our library, entitled "The Treatment of Infected Wounds," and read his description, as concise as a textbook, as interesting as a novel, of his hospital experience in the use of his technique.

Medical Items.

The following Maryland men, officers in the Medical Reserve Corps, have received their orders to report:

To Camp Hancock, Augusta, Ga., Motor Mechanics Regiment, from Washington, D. C., Capt. Compton Wilson, Friendship.

To Camp Meade, Annapolis Junction, Md.; Camp Jackson, Columbia, S. C.; Camp Wheeler, Macon, Ga.; Camp Beauregard, Alexandria, La., for duty with medical department, and on completion to return to Baltimore, Major William S. Thayer, Baltimore.

To Fort Des Moines, Iowa, for duty, from Des Moines, Major Frank Martin, Baltimore.

To Fort Myer, Va., for temporary duty, from Walter Reed General Hospital, Capt. Alexander D. McConachie, Baltimore.

To Fort Oglethorpe, for instruction, Lieuts. Dorsey P. Etzler, Coen L. Luckett, James S. Speed, Baltimore; Raymond K. Foxwell, Leonardtown.

To Fort Sam Houston, Tex., for assignment to duty, Lieuts. Thomas M. Rivers, William C. von Glahn, Baltimore.

To Newport News, Va., for duty, from Fort Oglethorpe, Major Nathan Winslow, Baltimore.

To Pittsburgh, Pa., for instruction, and on completion to his proper station, from Camp Lee, Lieut. William D. D. Cawley, Elkton.

Honorably discharged, Lieut. James A. O'Donnell, Baltimore; on account of physical disability which existed prior to his entrance into the service, Lieut. Leslie G. Taylor, Perryville.

To Camp Beauregard, Alexandria, La., for temporary duty, from Camp Bowie, Lieut. Kenneth F. Maxey, Baltimore.

To Camp Dix, Wrightstown, N. J., for duty, from Camp Jackson, Capt. Francis J. Powers, Baltimore.

To Camp Meade, Annapolis Junction, Md., for duty, from Army Medical School, Lieut. John C. Woodland, Crisfield.

To Fort Monroe, Va., for the special examination of the command for tuberculosis, from Newport News, Lieut. Israel J. Feingles, Baltimore.

To Fort Oglethorpe, for instruction, Capt. Charles T. C. Buckner, Lieuts. Charles H. Burton, Baltimore; Jay H. Stier, Perryman.

To Rockefeller Institute, N. Y., for instruction, from Fort Oglethorpe, Lieut. Vernon S. Wilkinson, Aberdeen.

To Camp Dix, Wrightstown, N. J., for temporary duty, from Fort Myer, Capt. Alexander D. McConachie, Baltimore.

To Baltimore, Md., for temporary duty, and on completion to his proper station, Major James Berdley, Baltimore.

To Fort Oglethorpe, for instruction, from Camp Gordon, Capt. Algernon D. Atkinson; from Camp Hancock, Capt. Isidore Isaac Hirschman, Baltimore. For instruction, Lieut. Marcus D. Smith, Cambridge.

To New York City, Neurological Institute, for intensive training, Lieut. Phillip Pearlstein, Baltimore.

To Philadelphia, Pa., and New York City, to inspect the Neuro-surgical Schools at these places, and on completion to his proper station, Major Charles Bagley, Jr., Baltimore.

To Rockefeller Institute for instruction, and on completion to Camp Shelby, for temporary duty, from Neurological Institute, New York, Lieut. George W. Bishop, Govans.

To Camp Sevier, Greenville, S. C., as divisional tuberculosis specialist, from Camp Sevier, Capt. William H. Yeaker, State Sanatorium.

To Camp Wheeler, Macon, Ga., for duty, and on completion to his proper station, Major William H. Welch, Capt. Isidore I. Hirschman, Baltimore.

To Fort McHenry for duty, Lieut. Morris B. Levin, Baltimore.

To Fort Oglethorpe for duty, from Camp Wadsworth, Capt. Thomas K. Conrad, Chevy Chase.

To his home and the inactive list, Lieut. Harold C. Bean, Baltimore.

Dr. William S. Thayer, major in the Medical Reserve Corps, who recently returned to Baltimore after several months spent with the Red Cross Commission in Russia, expects to leave for France the middle of the month, where he will serve with the Medical Corps of the U. S. Army.

Dr. Charles A. Riefschneider, senior resident surgeon of the University Hospital, Baltimore, has been appointed superintendent to succeed Dr. Harry M. Stein, who has resigned to enter the military service.

Major Frank Billings, Chicago, medical aid to Provost Marshal General Crowder, addressed the physicians of the medical advisory boards, local boards and district boards of the State at Osler Hall, Baltimore, February 16. The address was followed by a conference between physicians who are to pass on the physical qualifications of the men to be selected for

IN PLACE OF OTHER ALKALIES USE

Phillips' Milk of Magnesia

"THE PERFECT ANTACID"

For Correcting Hyperacid Conditions—Local or Systemic. Vehicle for Salicylates, Iodides, Balsams, Etc.

Of Advantage in Neutralizing the Acid of Cows' Milk for Infant and Invalid Feeding

Phillips' Phospho-Muriate of Quinine

COMPOUND

NON-ALCOHOLIC TONIC AND RECONSTRUCTIVE

With Marked Beneficial Action Upon the Nervous System. To be Relied Upon Where a Deficiency of the Phosphates is Evident

NEW YORK THE CHAS. H. PHILLIPS CHEMICAL CO. LONDON

GLYCEROPHOS COMP.

no sugar S&D

Even consumptives — whose stomachs are always easily upset—***take our product for many months without tiring and without any gastric trouble.***

And that rich winey flavor—like rare old Amontillado—makes it so acceptable to the dainty palates of ladies and little folks.

Your druggist should have his new stock now. We have an abundant supply.

SHARP & DOHME

service in the national army. The purpose of the meeting was to give the physicians a better idea of the physical defects which disqualify a man for military service in order that a greater degree of co-operation between the members of the boards and the military authorities may be brought about.

Dr. William H. Welch, Baltimore, announced the following appointments to the Institute of Hygiene and Public Health, to be opened in Baltimore next October: Dr. Carroll G. Bull of the Rockefeller Institute, New York, associate professor of immunology and serology, and Dr. Raymond Pearl, of the experiment station, to take charge of the department of biometry and vital statistics.

Dr. Winford H. Smith, superintendent of the Johns Hopkins Hospital, who has completely recovered from a recent illness, has resumed his duties in Washington, where he is serving in the Surgeon-General's Office.

Dr. Chester P. Woodward has been appointed secretary of the Baltimore Health Department, succeeding Dr. Austin H. Wood, who has entered the military service.

DEATHS

B. H. Yount, M.D., Wilbur, Wash.; Baltimore University, 1889; aged 60; a pioneer practitioner of the Big Bend Region; died about January 21.

William Clark Leet, M.D., Washington, Pa.; College of Physicians and Surgeons, Baltimore, 1881; aged 80; died at his home, January 30.

J. B. Peacock, M.D., Cochran, Ga.; Baltimore Medical College, 1895; for several years president and director of the First National Bank of Cochran, and later a director of the Cochran Banking Co.; first Mayor of Cochran; died in Hawkinsville, Ga., January 13, from cerebral hemorrhage.

Devotie Dennis Jones, M.D., Birmingham, Ala.; University of Maryland, Baltimore, 1872; aged 73; a member of the Medical Association of the State of Alabama; died at his home, December 23, 1917, from pleuropneumonia.

Francis Moore Clarke, M.D., Middletown, N. C.; College of Physicians and Surgeons, Baltimore, 1893; aged 47; a Fellow of the American Medical Association; formerly acting assistant surgeon, U. S. P. H. S., at Beauford, N. C., and superintendent of health of Carteret County; died in a hospital in Washington, N. C., February 3, from intestinal obstruction following an operation to relieve intestinal obstruction.

William Stanley Gorsuch, M.D., Baltimore; University of Maryland, Baltimore, 1888; aged 55; for many years a practitioner of Churchville, Md.; died at his home, January 23.

P. Joseph Faughman, M.D., Locust Gap, Pa.; College of Physicians and Surgeons, Baltimore, 1892; aged 53; a member of the Medical Society of the State of Pennsylvania; died at his home, January 28, from heart disease.

William T. Pate, M.D., Gibson, N. C.; College of Physicians and Surgeons, Baltimore, 1885; aged 57; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of North Carolina; formerly State Bacteriologist and president of the Fifth District Medical Society; died at his home, December 3, 1917, from cerebral hemorrhage.

Wilfrid Warpool Brown, M.D., Woonsocket, R. I.; Baltimore Medical College, 1891; aged 52; a Fellow of the American Medical Association, and president of the Woonsocket District Medical Society; superintendent of the Blackstone (Mass.) public schools, and a member of the school board for three years; a member of the Woonsocket school committee; died at his home, January 28.

Albert H. Varney, M.D., Newfields, N. H.; Baltimore Medical College, 1892; aged 81; a practitioner since 1857; formerly a Fellow of the American Medical Association; a member of the New Hampshire Medical Society; in 1871 a member of the Legislature from Newfields, and from 1867 to 1870 assistant surgeon of the Second Infantry, New Hampshire National Guard; for twenty-three years town clerk of Newfields, and for several terms a member of the board of selectmen; a member of the local board of health; died at his home, January 16.

Thomas Joseph O'Donnell, M.D., Baltimore; University of Maryland, Baltimore, 1903; aged 38; formerly a member of the Medical and Chirurgical Faculty of Maryland; associate professor of surgery in Maryland Medical College, Baltimore, and chief of clinic to the chair of operative surgery, and chief of the outdoor surgical department of St. Joseph's Hospital, Baltimore; died at his home, January 9, from heart disease.

FELLOWS' SYRUP

Differs from other preparations of the Hypophosphites. Leading Clinicians in all parts of the world have long recognized this important fact. HAVE YOU?

To insure results,
PRESCRIBE THE GENUINE

℞ Syr. Hypophos. Comp. FELLOWS'

REJECT < Cheap and Inefficient Substitutes
Preparations "Just as Good"

THE FELLOWS
MEDICAL MANFG. CO. LTD.
25 CHRISTOPHER ST.
NEW YORK

WILLS HOSPITAL OPHTHALMIC SOCIETY.

Meeting of February 5, 1918.

Dr. P. N. K. Schwenk reported two cases of panophthalmitis with recovery, following cataract extraction. The first case, a woman, age 72, underwent a combined lens extraction at her home on November 21, 1917. The patient made an uneventful recovery, but there remained an opaque piece of capsule in the pupillary area. About a month later, a capsulitomy was performed, followed in 24 hours by severe pain, nausea and edema of the bulbar and tarsal conjunctive. The cornea was indurated at site of limbal puncture. Two days later, the anterior chamber was two-thirds full of a purulent exudation and the cornea was steamy. A 25 per cent. solution of argyrol was instilled three times a day, atropin four times a day, and the eye was frequently cleansed with boric solution. Externally, to the lids, a warm 50 per cent. solution of magnesium sulphate was applied for 15 minutes every 2 hours for 6 weeks. Internally, 2 grs. quinine were administered four times daily. At the end of three weeks, the corneal induration began to subside and the hypopion had nearly disappeared. At the end of the sixth week the sclera was white and the cornea clear except for a minute scar at site of former puncture. Today there remains some organized lymph in one portion of the pupillary area, but the corrected vision is 6/30. Dr. Schwenk said that he had never seen, in his experience, such a violent inflammation followed by retention of the normal shape of the globe.

The second case, a woman, age 82, underwent a combined lens extraction on November 16, 1917. Two days later the wound was healing nicely, the anterior chamber had reformed, and there was but slight reaction. Four days later, the aqueous was hazy, there was a small hypopin, and more pronounced reaction. The case was then treated in a similar manner to the one above mentioned. Nine days the aqueous was clearing up. The pupillary coloboma space was filled with the whitish exudate. Ten days later, this exudate was absorbing. Eleven days later, the eye was entirely quiet and a capsulotomy was done. The following week, numerous vitreous exudate and a faint fundus reflex was seen. Two weeks later, corrected vision was 6/30 and the patient was discharged.

Discussion by Dr. Zentmayer. Dr. Zentmayer thought that the cases reported by Dr. Schwenk should not be classed as panophthalmitis, but rather as wound infection with iridocyclitis. Personally he had no faith in argyrol in these conditions and lately, in two cases of wound infection, he had used subconjunctival (intraorbital) injections of cyanide of mercury (1-3000) and had attributed the very satisfactory end result to this method of treatment. Possibly less radical methods would have proved as effective.

Dr. McCluney Radcliffe presented a case of panophthalmitis following cataract extraction, caused by tooth infection. He had performed a combined operation and recovery proceeded in a normal manner until the seventh day, when symptoms of infection were first noticed. (Before the operation was undertaken, a negative smear had been made from the contents of the conjunctival cul-de-sac.) With the onset of symptoms of infection, the usual treatment was instituted without effect, and it

"Palatability is a quality second only to therapeutic efficiency in determining the practical utility of a remedy."

No more convincing illustration of this can be found than that presented by

TROPHONINE

(*The food delicious for the sick*)

Agreeable to the most perverse appetite, this highly palatable liquid food makes a most effective means of meeting the nutritional needs of the body.

To the Anaemic and the Dyspeptic, the Neurasthenic and the Convalescent, the Aged and the Debilitated, TROPHONINE is not only a pleasant and delectable product, but its use solves the problem of supplying nourishment in a concentrated, convenient and acceptable form.

A trial bottle will convince you.

REED & CARNRICK
JERSEY CITY, N.J.

The Management of an Infant's Diet

Constipation

Protein indigestion or the failure to take care of the casein of cow's milk may result in delayed bowel movements.

When constipation in infancy is due to casein curds it is readily overcome by employing some means of preventing the firm coagulation of the casein.

Mellin's Food

acts upon the casein of milk in such a manner that the coagulated casein is presented in a most favorable condition for the action of the digestive fluids; therefore, Mellin's Food is especially indicated in constipation due to faulty protein digestion, and results will at once be apparent if Mellin's Food is used in sufficient amount to thoroughly attenuate the milk casein.

Mellin's Food Company
Boston, Mass.

was finally discovered that there was an infected tooth on the same side. An X-ray was taken and showed a diseased root. The tooth was then extracted. There was a large cavity in the lower portion of the crown and the root showed necrotic changes. but there was no abscess. The eye now shows a condition of phthisis bulbi and will have to be enucleated. Dr. Radcliffe thought that the onset of the disease seven days after the operation, when the anterior chamber was thoroughly closed, strongly indicated that the infection was of endogenous origin.

Discussions. Dr. Zentmayer said that he did not recall in literature a case of panophthalmitis attributed to focal infection. Most of the cases were uveitis. There were, however, several cases, similar to the one reported by Dr. Radcliffe, in which infection following operation had been attributed to oral sepsis.

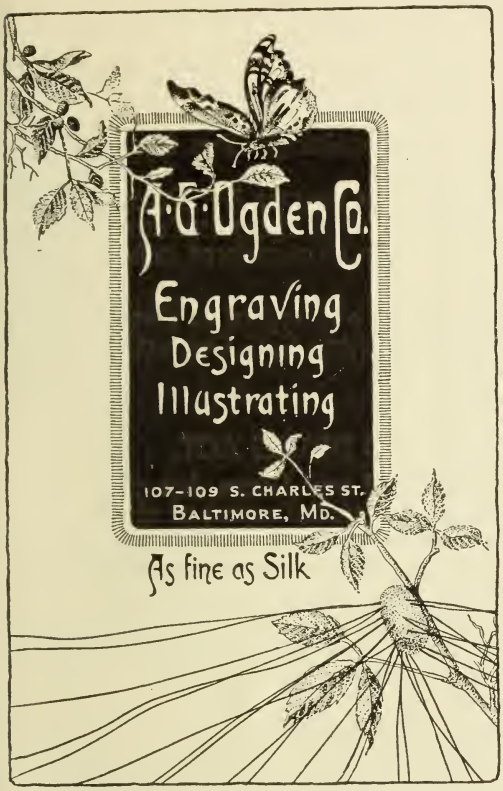
Dr. Posey said that he thought Dr. Radcliffe's conjecture regarding the origin of the infection was doubtless correct. He thought, however, that ocular infection from dental cause was exaggerated. He had recently been compelled to operate upon a case with marked pyorrhea and had never had better results.

Dr. Wm. Campbell Posey reported a case of corneal haze in a miner. The haze, which was limited to the pupillary areas of both eyes, consisted of a grayish-white stippling of the anterior layers of the cornea, apparently due to a hyaline change. The remaining portions of the cornea were clear; vision equalled 5/15 in each eye. The patient was a laborer and had worked for 30 years at the openings of shafts, where he was subjected to violent drafts. The ocular changes here seen were probably caused by the action of air laden with small irritating particles of dust. Dr. Posey referred to an article written by Nettleship some years ago, in which that author referred to a number of cases of dimness of vision resulting from a haze of the corneal epithelium, occasioned by a high wind. He said that he had recently seen a similar case in his own practice in which a break in the epithelium, caused by the lodgment of a foreign body, was surrounded by a peculiar haze of the epithelium which was elevated as though infiltrated with oil droplets. This condition of affairs subsided in 12 hours.

Discussions. Dr. Zentmayer asked Dr. Posey how he explained the limitation of the capacity to the center of the cornea. In most similar conditions the capacity was zonular.

Dr. Schwenk stated that he considered that Dr. Posey's conclusion, that the corneal irritation was caused by wind laden with foreign matter, was quite reasonable.

Dr. Posey showed a child who had suffered a perforating wound of the limbus. The iris had been prolapsed and the lens injured. As the case did not report at the hospital until 48 hours after the injury had occurred, he treated the case expectantly, especially as there was some discharge from the conjunctiva. He thought it a mistake in cases of this kind to open up the wound after it had been once partially closed over with epithelium, on account of the danger of wound infection. As in this case, he preferred to wait until the inflammatory reaction and the conjunctival irritation had subsided. In this case he closed the wound by dissecting the conjunctiva from the ectasic area, and slipping the same underneath the undermined conjunctiva below the wound, just as is done in the McReynolds pterygium opera-



Campetrodin

(MADE IN TWO STRENGTHS OF IODINE)

This preparation is an Oleaginous Solution of Iodine in Camphor. ***Penetrating, Powerful Antiseptic, Local Analgesic, Alterative. Ideal Surgical Dressing, Soothing***

A convenient application for wounds, bruises, burns, sores. Useful as an inunction (rubbing for two or three minutes, t. i. d., over the affected area) for rheumatic and neuralgic pains, swollen glands, inflammatory conditions, to abort boils, and for numerous allied disorders for which Camphor and Iodine locally are ordinarily prescribed.

Campetrodin No. 2 is double strength, and is dispensed only when designated. This form is especially valuable in reducing swollen glands, and in relieving obstinate, deep-seated rheumatic and neuralgic pains.

Campetrodin is marketed in one, three and eight-ounce bottles, retailing for 25c., 50c. and $1.00 respectively, and Campetrodin No. 2, retailing for 35c., 75c. and $1.50.

PREPARED ONLY BY

A. H. ROBINS CO., Richmond, Va.

WHEN you write advertisers, mention the MARYLAND MEDICAL JOURNAL.

Sal Hepatica

EFFERVESCENT
SALINE COMBINATION
LAXATIVE & ELIMINANT

Samples on request

BRISTOL-MYERS CO
NEW YORK

tion. Such a procedure closes the wound, makes tension upon it and produces a flat scar.

Dr. Posey exhibited a case of a young girl, from whom he had recently removed an adenoma of the orbit. The cosmetic results were almost perfect, a slight drooping of the lower lid and a very fine scar over the outer marginal rim remaining. But three weeks had elapsed since the operation.

Discussion. Dr. Zentmayer said that he thought Dr. Posey had *more* than cured the exophthalmus and that there was now a slight enophthalmus. The result, however, he considered to be excellent.

Note. Please address all communications in regard to these transactions to Harold W. How, M.D., Secretary, S. E. Cor. 15th & Locust streets, Philadelphia, Pa.

TEN YEARS OF THE FOOD AND DRUGS ACT.

Ten years of enforcement of the Food and Drugs Act of June 30, 1906, are reviewed in the current annual report of the Bureau of Chemistry, United States Department of Agriculture, which says that the Act's chief contributions to the safety of the people's health have been its corrective effect upon the drug and patent medicine industry, its control of trade in unclean milk, polluted, decomposed or filthy foods, and protection of foodstuffs from contamination with poisons likely to be met in manufacture.

The general effect of the Food and Drugs Act may best be estimated, says the report, by considering its effect upon food and drug control by the States; upon development of the food and drug industries and by the principal abuses that have been corrected. But to illustrate the scope of the work through figures and facts the report points out that more than 6000 prosecutions have been terminated in the courts in the first decade of the Act; that manufacturers have been cited at hearings more than 40,000 times, that many thousands of factory inspections have been made, and that more than 750,000 shipments of domestic or imported food and drugs have been examined.

Special attention has been given to shipments of polluted or spoiled food. Milk shipped in interstate commerce and imported from Canada has been improved in cleanliness, purity, and the condition of sanitation under which produced. The canning of decomposed navy beans has been largely suppressed. Interstate shipment of oysters from polluted water has practically ceased. Because of co-operation with State and municipal officials in controlling the shipment of bad eggs, it is reported that the quality of the eggs reaching the large cities is much improved. Other products in whose handling and sale improvement has been noted include mineral water, tomato products, fruit, vinegar and gelatin.

States Co-operate with Federal Laws.

One consequence of the enactment of the Food and Drugs Act was to encourage similar legislation in many of the States, the purpose of which is to control local traffic in food and drugs which, since no interstate commerce is involved, are not subject to the Federal law. For example, in 1906, many States had no feeding-stuffs laws. A State could not prosecute a manufacturer

The Dugdale Treatment

for

MALIGNANT GROWTHS

A refined creosote combined with hydrocarbon and essential oils. For literature, write to

FREDERICK DUGDALE, M.D.
372 Boylston Street
Suite 61 BOSTON, MASS.

Mountain Valley Water

From (near) HOT SPRINGS, ARK.

Send for Analysis

Mountain Valley Water Co.

St. Paul 7470 206 N. Calvert Street

YOUR SPECIAL ATTENTION
IS DIRECTED TO

Beef, Iron and Wine, with Hydropepsin,

Liquid Pi-cine Co., Red Syr. Hypophosphites Co.,

Compound Salol Capsules.

THOMAS & THOMPSON CO.
Manufacturers and Dispensers of Pure Medicines (Wholesale and Retail)
Cor. Baltimore and Light Sts., Baltimore, Md.

A Dependable Bowel Corrective

that produces its effects by stimulating and promoting the physiologic processes of the intestines.

PRUNOIDS

do not excite excessive peristalsis nor give rise to after constipation.

Prunoids promptly relieve and correct the conditions causing Chronic Constipation and meet every requirement for a safe and effective intestinal evacuant. Especially useful for correcting bowel torpidity.

DOSE---One to three tablets at bedtime as required.

A Gentle Cardiac Tonic

that supports and sustains the heart through its capacity to improve cardiac nutrition.

CACTINA PILLETS

are free from cumulative or other objectionable effect and produce prompt and gratifying results in Tachycardia, Palpitation, Tobacco Heart, Arrythmia, and all Functional Diseases of the Heart where the heart's action needs supporting, strengthening or regulating.

DOSE---One to three Pillets three times a day.

SENG

A trustworthy gastric tonic and secernent

SULTAN DRUG Co.,
ST. LOUIS, MO.

unless he were a citizen of that State. The Federal law supplements the State law in this respect, and now most of the States have similar laws.

In the beginning the confusion and apparent conflict between local and Federal laws and administration of laws not only made it difficult for the two sets of officials to co-operate, but often made it necessary for manufacturers to make special preparations for shipment to certain States at extra cost, the extra cost being passed on to the ultimate consumer. This evil has been remedied to a considerable extent by the organization of two agencies which in a large measure have removed some of the difficulties arising from the conflict of Federal and State jurisdiction. These agencies are (1) The Joint Committee on Definitions and Standards, and (2) The Office of Co-operative State and Federal Food and Drug Control.

Development in Food and Drug Industries.

The Food and Drugs Act was one of the first laws which today would be classed as laws for the prevention of unfair competition. The report says that the suppression of fraud upon the consumer and of unfair competition among business rivals are "but the two faces of the same coin." In consequence, the food industries are sincerely and actively helping the Bureau of Chemistry to enforce the law.

Frequently, the report says, the Bureau is appealed to by the industries to compel the cessation of unfair practices and to encourage the standardization of the product when the industry is incapable by itself of bringing about these results. The Act is described as one of the influences which have helped to draw competitors together into association like the guilds of the middle ages, although the modern associations lack the special privileges which the ancient guilds often enjoyed.

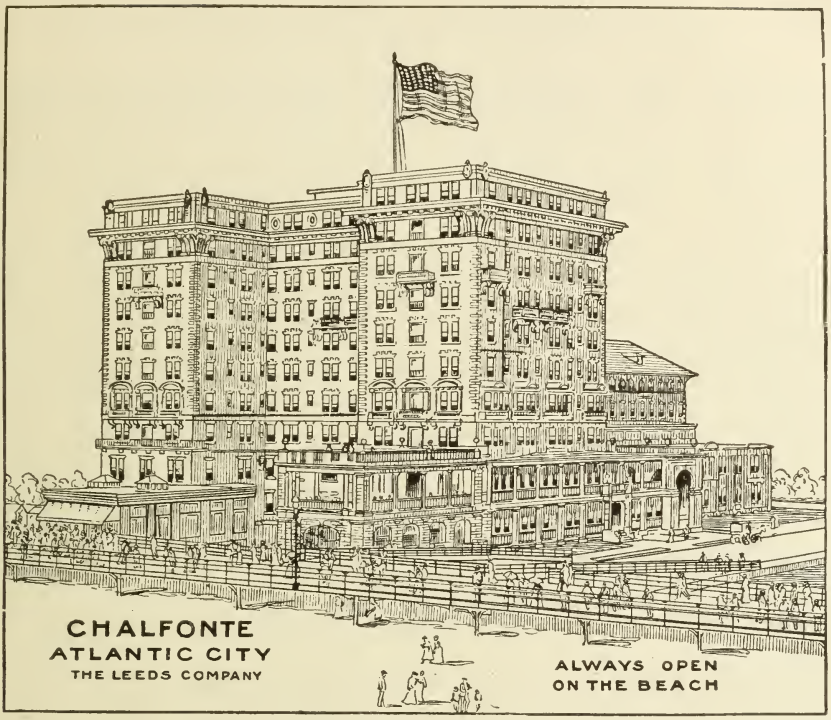
Some of the associations, understanding the value of constructive work, now devote considerable money to experimental research into technical problems. Thus is made available to the small manufacturer scientific assistance ordinarily beyond his reach. Since the Bureau of Chemistry always has regarded it as its duty not merely to report violations of the law, but also to prevent accidental violations, through constructive work intending to improve methods of manufacture, it co-operates actively with such associations of manufacturers. Such co-operation by the various Government agencies, says the report, is bound to exert the profoundest influence on the country's industrial and social development.

Abuses Corrected by Law.

The best evidence, according to the report, that many of the abuses formerly occurring in the food industry have ceased is found in the fact that the violations of the Food and Drugs Act observed today are hardly comparable, in degree, with those in the first few years following the enactment of the law.

Most of the staple-food products now found in violation either are of a higher grade than formerly or are products of clever adulterators who have more or less anticipated detection so that the adulterations have been found only by the most painstaking chemical analyses and factory inspection.

Consequently there has been a decided change in the direction



Select Location

PHILLIPS HOUSE

Open All the Year

F. P. PHILLIPS

Specially Prepared Diets for Convalescents

Nurse and Doctor on Call

Massachusetts Ave., near Beach **ATLANTIC CITY, N. J.**

SUBSCRIBE TO THE

Maryland Medical Journal

$2.00 PER YEAR

of the work. In recent years it has developed quite noticeably in the direction of factory sanitation; of the study of spoilage and decomposition of foodstuffs and of improvement through laboratory research of methods of detecting the more refined types of adulteration.

PATENT MEDICINE LABELS MUST SPEAK TRULY.

Ten years ago there was no ailment to which human flesh is heir that some maker of patent medicines did not claim to be able to cure with such ease that it seemed almost the heights of foolishness not to part with the price for his nostrums.

Today, because of the operation of the Federal Food and Drugs Act, the extravagant promises of cure that characterized the labeling of the patent medicines of 10 years ago have practically disappeared from the preparations that enter interstate commerce. They may, however, still be found in newspaper and other advertisements that are not subject to the act. The "pure food law," as it is known, is concerned only with the package as it is shipped in interstate commerce. If one questions the truth of a newspaper advertisement of a patent medicine let him read the label on the carton or bottle at the corner drug store. The latter will come nearer telling the truth about the medicine.

Misbrandings, in regard to healing value of hundreds of alleged cancer cures, so-called "cures" for coughs, colds, consumption, kidney diseases, epilepsy, St. Vitus dance, and the like, have been corrected. This is told in the annual report of the Bureau of Chemistry, United States Department of Agriculture, which reviews the operation of the Food and Drugs Act in the safeguarding of the health of the American people.

The law requires the labels of patent medicines to declare the presence of any habit-forming drug, such as opium, cocaine, or alcohol, thus preventing the innocent development of the drug habits. This provision of the law is particularly valuable in warning mothers against the use of so-called infant soothing syrups containing opium.

When the Act went into effect, drug addiction was so prevalent that frauds in the treatment of the victims were frequent and in most instances the remedy advertised so forcefully by the labels contained the very drug from which escape was desired.

In 1907, the Bureau of Chemistry found that 30 soft drinks contained small amounts of cocaine. Practically all of these were suppressed. The Food and Drugs Act is regarded as having been an important factor in bringing about passage of the Harrison Anti-Narcotic law, which more effectively controls habit-forming narcotics.

Much has been done, the report says, to control the indiscriminate use of so-called headache remedies containing dangerous, depressing drugs, and of dangerous cosmetics making claim to healing value, and in raising the quality of the supply of crude drugs through the examination of imports. As a result of co-operative work with the Postoffice Department, a number of fraud orders were issued by that Department preventing the use of the mails in promoting the sale of fraudulent medicines.

Stanolind Surgical Wax

Reg. U. S. Pat. Off.

A new dressing for burns, granulations and similar lesions.

Manufactured by the Standard Oil Company of Indiana, and guaranteed by them to be free from all deleterious matters. So packed as to insure it against all contamination.

Stanolind Surgical Wax has a sufficiently low melting point so that when fluid the possibility of burning healthy tissue is precluded.

Its correct ductile and plastic features make it adaptable to surface irregularities without breaking.

When properly applied it adheres closely to sound skin, yet separates readily and without pain from denuded surfaces.

Stanolind Surgical Wax when applied in proper thickness maintains a uniform temperature, promoting rapid cell growth, and assisting nature to make repairs quickly.

Stanolind Petrolatum

In Five Grades

"Superla" white is pure, pearly white, all pigmentation being removed by thorough and repeated filtering.

"Ivory" white, not so white as Superla, but compares favorably with grades usually sold as white petrolatum.

"Onyx," well suited as a base for white ointments, where absolute purity of color is not necessary.

"Topaz" (a clear topaz bronze) has no counterpart—lighter than amber—darker than cream.

"Amber" compares in color with the commercial grades sold as extra amber—somewhat lighter than the ordinary petrolatums put up under this grade name.

Standard Oil Company of Indiana guarantees the purity of Stanolind Petrolatum in all grades.

Stanolind Liquid Paraffin

For the Bed-Ridden Patient

Lack of exercise lessens functional activity of the intestinal organs.

Salines, aperient waters and cathartics tend to induce undue peristaltic activity —depleting the patient's strength.

Stanolind Liquid Paraffin always is indicated in such cases.

It is purely mechanical in action, lubricating the entire intestinal tract, and causing a complete evacuation of the bowel content.

Stanolind Liquid Paraffin is non-griping and non-habit-forming.

STANDARD OIL COMPANY

(Indiana)

Manufacturers of Medicinal Products from Petroleum

72 West Adams St. Chicago, U. S. A.

672

PHYSICIAN WANTED

WANTED—Physician; four years hospital service. Exempt. Licensed in Maryland. Locum tenens or salaried appointment. For particulars, address

BOX 12, MARYLAND MEDICAL JOURNAL,
Professional Building,
Baltimore, Md.

LOCAL DIRECTORY

THIS Directory is maintained mainly for the benefit of local firms seeking the patronage of physicians and their families. Only well established and reliable concerns will be represented, and doubtless the space at our disposal will be constantly in demand. In responding to these exploitations, the reader will find it mutually advantageous to mention the MARYLAND MEDICAL JOURNAL.

THE MEDICAL JOURNAL CO.

Competent Attendants for Women Telephone Mt. Vernon 5413

GIBSON CO., Inc.
(Formerly McKEE Co., Inc.)
Baltimore's Best Surgical Instrument House
HOSPITAL, INVALID AND SICK-ROOM SUPPLIES
310 N. Eutaw Street BALTIMORE, MD.

We Do Not Prescribe Glasses—We Make Them
BOWEN & KING
Prescription Opticians
405 North Charles St.
Telephone BALTIMORE, MD.

The National Bank of Baltimore
BALTIMORE AND ST. PAUL STS.

Capital,	$1,210,700.00
Surplus and Undivided Profits,	323,572.91
Deposits,	7,676,460.75

The Medical Standard Book Co.
(The Book Mart)
301 N. Charles Street, Corner Saratoga
Headquarters for MEDICAL BOOKS
PRINTERS Largest and Most Complete Medical Book Store South of New York

Publishers' Department.

Danger Due to Substitution.

HARDLY another of all the preparations in existence offers a wider scope to imposition under the plea of "just as good" than the scientifically standardized Eucalyptol.

The most recent fraud practiced in regard to this product is an attempt to profit by the renown of the firm of Sander & Sons. In order to foist upon the unwary a crude oil, that had proved injurious upon application, the firm name of Sander & Sons is illicitly appropriated, the make-up of their goods imitated, and finally the medical reports commenting on the merits of their excellent preparation are made use of to give the desired luster to the intended deceit.

This fraud, which was exposed at an action tried before the Supreme Court of Victoria at Melbourne, and others reported before in the medical literature, show that every physician should see that his patient gets exactly what he prescribed. No "just as good" allowed.

An Enormously Powerful Germicide.

GERMICIDAL SOAP MILD (P. D. & Co.), which contains 1 per cent. of mercuric iodide, has a carbolic-acid coefficient of 30. In other words, this soap (not the mercuric iodide it contains) as a germicide is 30 times as active as pure carbolic acid. Pure carbolic acid is 20 times as active as the carbolic solution usually employed (5 per cent.); so Germicidal Soap, 1 per cent., is 30x20 or 600 times as active as a 5 per cent. solution of carbolic acid. A rich lather will contain 1 per cent. of Germicidal Soap, which is therefore six times as active as 5 per cent. carbolic, or equal to 30 per cent. carbolic. Yet Germicidal Soap does not irritate the skin or injure steel or nickel.

Germicidal Soap is useful in every department of medical practice. In obstetrics and gynecology it is a valuable antiseptic, deodorant and lubricant for the examining finger or instrument. In surgery it is an admirable general disinfectant; it can be used to prepare antiseptic solutions without measuring, weighing or waste. In office practice it is useful as a disinfectant for the hands after examinations and in the treatment of parasitic diseases. It is serviceable in cleansing minor wounds; as a deodorant in cases of hyperidrosis with offensive odor; for cleansing the scalp and checking dandruff. It may be used as a shaving soap

Delightful dance music

Our Victor Dance Records offer everything that's latest and best in dance music. Come in, and we'll play your favorites for you. The chances are we have the very piece you've been wishing to hear.

A Victrola — some Victor Records—and you can dance wherever you please and as long as you please. You can get a Victrola for **$20** to **$450** and on *the easiest of terms.* Ask us.

Victrola

Victor — HIS MASTER'S VOICE — REG. U.S. PAT. OFF.

COHEN & HUGHES

BALTIMORE WASHINGTON

Victor Distributors

14 N. Charles Street **220 N. Howard Street**

by patients having sycosis, and in the treatment of pustular acne and furuncles it may be applied freely to prevent a spread of the infection. Vaginal douches prepared from it are less irritating than those containing mercuric chloride, and have the added advantage of the detergent effect of the soap.

The soap is marketed in two strengths: Germicidal Soap 2 per cent., containing 2 per cent. of mercuric iodide; Germicidal Soap Mild, containing 1 per cent. of mercuric iodide. The 2 per cent. soap is recommended only when an exceptionally strong disinfectant is needed.

THE advantages of immunization against diphtheria have been well demonstrated. The records of the New York City Health Department—80,000 immunized with a morbidity of 0.2 per cent.—furnish ample evidence of the value of diphtheria antitoxin in combating this disease.

An antitoxin of high potency, small bulk and low protein content is supplied by Eli Lilly & Co., Indianapolis. This product is prepared under aseptic conditions by improved methods of concentration and purification.

Many experienced clinicians recommend 5000 units in mild cases, in moderate cases 10,000 units, and in severe cases 20,000 units. Diphtheria antitoxin should be given at once when evident clinical symptoms of diphtheria are present, and the Lilly product can be supplied quite readily, through the drug trade, in convenient syringe packages.

Another product of the Lilly Biological Laboratories that is eminently satisfactory to physicians is smallpox vaccine virus, Lilly. In primary vaccinations this virus is said to yield the maximum percentage of "takes." The searching tests made at the Lilly Biological Laboratories to determine the potency and purity of vaccine virus is assurance that the product will give satisfying results if proper cold-storage precautions have been observed.

Headache and Neuralgia.

Is there anything more harmlessly comforting in these painful conditions than K-Y Analgesic, locally applied.

"Sick headache," "bilious headache," "nervous headache" and just "plain headache" are usually relieved when K-Y Analgesic is properly employed.

The local use of K-Y Analgesic does not in the least take the place of or interfere with any treatment looking to the removal of the cause of the headache. Rather, K-Y Analgesic is simply a useful adjunct to general treatment.

K-Y Analgesic is not a panacea. It is simply a safe, non-greasy, local anodyne, remarkably effective within its rational limitations.

Samples will be forwarded to physicians on request to Johnson & Johnson, Van Horn & Sawtell Dept., 15-17 East 40th St., New York City.

Diaper Rash.

THE irritated conditions which are so frequently observed around the genitals and buttocks of young infants are particularly amenable to the soothing action of K-Y Lubricating Jelly. Of course, the digestive organs of the little sufferer must be interrogated, its diet corrected if necessary, and proper care given to changing the diapers and cleansing the parts. If, in addition to attending to these matters, K-Y Lubricating Jelly is used after each bath and whenever the diapers are changed, the distressing rash and excoriations which are so often responsible for the fretting and restless-

W. H. CARRIGAN
President

E. F. OHLMEYER
Sec'y-Treas.

The Brown Optical Co.

Optometrists

112 N. HOWARD STREET

LICENSED BY THE STATE TO EXAMINE EYES

SPINAL TROUBLE
NERVOUS DISORDERS

L. W. BULLARD, D.C.

Maryland's Pioneer Chiropractor

519 N. Charles Street
BALTIMORE, MD.

Hours:
9 to 12. 1 to 5

Phone:
Mt. Vernon 5339

Hotel Wachapreague

WACHAPREAGUE, VA.

7 Points Why You Should Spend Your Vacation at Wachapreague 7

1st—Good table.
2d—Perfect Ventilation.
3d—Comfortable beds.
4th—Excellent surf bathing.
5th—Inland waters for swimming.
6th—Boating and fishing unequaled.
7th—One Hotel on ocean front; one Hotel on mainland, waterfront. Same management. The change is appreciable.

A. H. G. MEARS

Wachapreague, - - Eastern Shore, Va.

Continental Hotel

South Tennessee Ave.

ATLANTIC CITY - NEW JERSEY

Always Open Always Ready
Phone or Write

Within one square of P. R. R. Depot, Ocean, Banks, Piers, Catholic and Protestant Churches and Bathing Grounds. Special Diet for Invalids Resident Nurse. Seventeen years in same location. Garage attached.

M. WALSH DUNCAN
Owner and Proprietor

ness of young infants can be relieved and avoided in the majority of instances. K-Y Lubricating Jelly is absolutely harmless, and has the great advantage that it never stains or soils the clothing or bed linen. It is emollient, detergent and healing.

For samples address Johnson & Johnson, Van Horn & Sawtell Dept., 15-17 East 40th St., New York City.

Advantages of Passiflora Incarnata.

Among the superior features of passiflora incarnata as represented by Pasadyne (Daniel) are positiveness of therapeutic power and safety—the criteria of any remedy's worth.

Pasadyne (Daniel) is a concentrated tincture of passiflora incarnata, and is indicated in sleeplessness, nervousness and irritation of the cerebro-spinal centers. As a sleep-producing agent Pasadyne (Daniel), particularly in persons with an unstable nervous organization, shows its greatest utility. No bad result follows its use, such as depression or habit formation.

Its marked sedative powers, together with its freedom from the possibility of evil results, make Pasadyne (Daniel) an agent of exceptional value. Use it whenever you need a sedative. A sample bottle may be obtained by addressing the laboratory of John B. Daniel, Inc., Atlanta, Ga.

A Palatable Cod-liver Oil.

No one disputes the remedial value of cod-liver oil. The only question involved is one of palatability.

Nearly a generation ago the Katharmon Chemical Co. introduced to the medical profession a preparation of cod-liver oil which, while palatable, possessed every virtue of the plain oil. This product, Cord. Ext. Ol. Morrhuae Comp. (Hagee), has steadily grown in favor and today is widely used by physicians, by whom it has been subjected to the most searching clinical tests.

It can be said of Cord. Ext. Ol. Morrhuae Comp. (Hagee) that it offers the patient the every therapeutic property of the plain oil, and yet is palatable—so much so that it is readily accepted by delicate stomachs, and may be continued over long periods without causing gastric distress or creating an intolerance for it.

FOR THE TREATMENT OF BONE DISEASES OF THE GRAVEST CHARACTER

DRUID SANATORIUM

BALTIMORE, MARYLAND

INCLUDING OSTEO-MYELITIS POTT'S DISEASE HIP-JOINT DISEASE AND ALL OTHER TUBERCULAR BONE DEGENERATION

A private sanatorium devoted to the treatment of bone diseases; including simple osteo-myelitis, and tubercular degeneration, regardless of location, extent, or duration. Many of these cases have defied both medicine and surgery, failing to respond to drugs, to the knife, to skin grafting, or to bone implantation. In fact they have reached the limbo of the incurable, with a most hopeless future.

It is just such cases we are successfully treating, and for their comfort and care we have a most pleasantly located sanatorium, modern in every detail; it is located in the residential section of Baltimore near the entrance to the world-famous Druid Hill Park.

Applications only entertained when placed through or recommended by the patient's attending physician. It will be a pleasure to correspond with all who desire further information.

DRUID SANATORIUM
BALTIMORE, MARYLAND

Eldridge C. Price, M. D.
Medical Director

Western Maryland Dairy

BALTIMORE, MD.

BACTERIAL tests show that the milk received by us primarily contains a lower average percentage of bacteria than is usual. It is then subjected to pasteurization after the most scientific and modern methods, thus giving us a distinctive product. Our hygienic plant, **No. 1117 Linden Avenue,** is at all times open to the inspection of physicians and others who are interested.

W. E. Jones Art Galleries

Etchings and Mezzotints

In Monochrome and Color

OIL PAINTINGS

330 North Charles Street

Professional Bldg. BALTIMORE, MD.

The Effective Treatment of Burns.

THE conspicuous results obtained with the paraffin treatment in France have created a demand for a dependable preparation in this country. Accordingly, Redintol has been prepared and placed at the service of American physicians.

Applied according to directions, Redintol promptly relieves burning and smarting. Healing proceeds rapidly, with the great advantage that scarring and contractions are reduced to a minimum. Redintol, therefore, opens up new and far-reaching possibilities in the treatment of burns and enables the practitioner to accomplish results that he has rarely if ever been able to obtain with the other measures at his command.

Samples and full directions to physicians on request to Johnson & Johnson, New Brunswick, N. J.

TONGALINE exerts a manifest action on the nervous system of the secreting order of glands, it diminishes the uric acid content of the blood and produces a substitutive irritation in the region of the articular surfaces. On account of the exaggerated vasomotor action of Tongaline, the irritation drives the poisonous deposits toward the emunctories, causing a great secretion of bile in the liver, an abundant diuresis in the kidneys and a serious diarrhea in the intestines, while in the feces and in the urine we find a great quantity of uric acid.

These conditions secure the attainment of the desired effect, which is to expel from the organism all those agents, the accumulation and retention of which in the blood are the cause of rheumatism, neuralgia, grippe, gout, nervous headache, malaria, sciatica, lumbago, tonsilitis, heavy colds and excess of uric acid.

SANITARIUMS, ETC.

The Gundry Sanitarium

(ATHOL)

A Private Sanitarium for the Care and Treatment of Nervous and Selected Cases of Mental Diseases in Women.

Splendidly located; retired and accessible to Baltimore, surrounded by 28 acres of beautiful grounds. Buildings modern and well arranged. Every facility for treatment and classification.

For further information, write or telephone

C. & P. 'Phone Catonsville 78-R

DR. ALFRED T. GUNDRY, or THE GUNDRY SANITARIUM Athol, Catonsville, Md.

The Richard Gundry Home

(*Established 1891*)

HARLEM LODGE, CATONSVILLE, BALTIMORE COUNTY, MARYLAND

A WELL EQUIPPED SANITARIUM for the treatment of Nervous and Mental Diseases, selected cases of Alcoholic and Opium Habitues, and the various diseases requiring the removal from the environments of home.

For rates, etc., address **DR. RICHARD F. GUNDRY** C. & P. Phone No. 86, Catonsville

References

Dr. Wm. Osler, Oxford, Eng. Dr. Julius Friedenwald, Baltimore. Dr. Wm. S. Thayer, Baltimore.
Dr. Henry M. Hurd, Baltimore. Dr. Nathan R. Gorter, Baltimore. Dr. J. Allison Hodges, Richmond, Va.
Dr. Thos. A. Ashby, Baltimore. Dr. Samuel C. Chew, Baltimore. Dr. Wm. F. Drewry, Petersburg, Va.
Dr. J. Clement Clark, Sykesville, Md. Dr. Wm. S. Gardner, Baltimore.

Arlington Sanatorium

A THOROUGHLY modern institution, devoted to the treatment of **Drug, Alcohol** and **Nervous Diseases.** The surroundings and interior of "The Arlington" are suggestive only of a modern home of refinement. Patients are treated in a strictly ethical manner. Inspection by reputable physicians invited.

Write for Booklet
"Breaking the Shackles"

Dr. C. T. SCUDDER
Medical Director

Evergreen Place and Palmer Avenue, Arlington
Phone, Arlington 175 **Baltimore County, Md.**

Silvol in eye, ear, nose, throat and genito-urinary infections

An eye, ear, nose and throat specialist of wide experience sums up the advantages of **SILVOL** in these words:

1. Quick solubility in any dilution suitable for application to mucous membranes.

2. Less staining effect than with other proteid-silver preparations.

3. High percentage of silver content.

4. Minimum of irritation when applied to mucous surfaces.

5. Low percentage dilutions effective as compared with similar preparations.

INDICATIONS.

Conjunctivitis,
Corneal Ulcer,
Trachoma,
Rhinitis,
Sinus Infections,
Otitis Media,
Ozena,
Pharyngitis,
Tonsillitis,
Laryngitis,
Gonorrhea (all stages),
Cystitis,
Posterior Urethritis,
Vaginitis,
Cervical Erosions,
Endometritis, Etc.

Granular Powder: Bottles of one ounce.
Capsules (6-grain): Bottles of 50.
Ointment, 5%: Collapsible tubes, two sizes.
Vaginal Suppositories, 5%: Boxes of one dozen.
Bougies, 5%: Boxes of 25 and 100.

LITERATURE ACCOMPANIES EACH PACKAGE.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

"The Salt Breath of the Sea Brings Health"

GALEN HALL

And Cottages

Hotel and Sanatorium

ATLANTIC CITY, N. J.

¶ Stone, Brick and Steel Buildings, with every modern comfort. Two Elevators and five Sun Parlors.

¶ Convalescents can have specially prepared diets and other helps, and be under control and advice of home physician through our resident.

¶ Our Treatment Department includes Electric and Hydriatic Appliances of the latest style, with Sea Water. Trained operators only.

F. L. YOUNG, General Manager

So many cases of

Pruritus, Chafings, and Irritations

are relieved by applying

K-Y Lubricating Jelly

that we feel we owe it to our patrons to direct their attention to the usefulness of this product as a local application, *as well as* for surgical lubrication.

No claim is made that K-Y Lubricating Jelly will act with equal efficiency in every case; but you will secure such excellent results in the majority of instances that we believe you will continue its use as a matter of course.

NO GREASE TO SOIL THE CLOTHING!

Collapsible tubes, 25c. Samples on request.

VAN HORN AND SAWTELL
15-17 East 40th Street, New York City

CONSTIPATION AFTER OPERATION

not infrequently nullifies the most skillful surgical technique, and seriously prolongs convalescence. By commencing the use of

INTEROL

the first or second day after operation, this serious condition can be prevented in many of these cases, and easy bowel movements assured without discomfort or straining at stool.

Thus the obvious dangers can be avoided, the patient's dread of bowel evacuation removed, and convalescence aided and hastened.

Sig—$\frac{3}{3}$ss. taken morning and night on an empty stomach, the dose to be increased or reduced under the physician's directions as occasion demands.

In pint bottles at all druggists. INTEROL booklet; also literature on "Obstipation Following Operation" sent on request

VAN HORN AND SAWTELL
15 and 17 East 40th Street, New York City

FLEET-MCGINLEY CO., PRINTERS,
BALTIMORE, MD.

MARYLAND
Medical Journal

Medicine and Surgery

The Medical Journal Company

BALTIMORE *Publishers* WASHINGTON

Volume Sixty-one
Number Three

MARCH, 1918

Annual Subscription
Two Dollars

In the Treatment of

RHEUMATIC and NEURALGIC ILLS

you will obtain substantial aid from the thorough use of

K-Y ANALGESIC

This non-greasy, water-soluble local anodyne will enable you to ease your patient's pain and discomfort, while your internal or systemic medication is combating the cause of his condition.

The advantages, moreover, of relieving the pain of a facial neuralgia, an inflamed joint, or aching lumbar muscles without recourse to coal tar derivatives cannot fail to appeal to medical men.

K-Y ANALGESIC is a safe and effective adjunct that will daily grow more useful to the practitioner as the many opportunities for its effective use are realized.

VAN HORN AND SAWTELL

NEW YORK CITY, U. S. A.
15 and 17 East 40th Street

and

LONDON, ENGLAND
31 and 33 High Holborn

WHEN A TONIC IS NEEDED

the best obtainable is called for—in its composition, in its quality and character, and above all, in its capacity to promote bodily vitality and strength. In

Gray's Glycerine Tonic Comp.

FORMULA DR. JOHN P. GRAY

the practitioner has at his command a restorative and reconstructive that justifies every confidence. Of the highest quality and constant uniformity—in spite of the drug market—and exceptional therapeutic efficiency, the use of "Grays" is a guarantee that the best possible results will be obtained in each and every case.

For over a quarter of a century "Grays" has been one of the most widely—and successfully—used remedies in atonic and debilitated conditions.

COMPOSITION

Glycerine
Sherry Wine
Gentian
Taraxacum
Phosphoric Acid
Carminatives

"Grays" is now supplied in two sizes—a 6 oz. prescription size, and the original 16 oz. package.

INDICATIONS

Auto-Intoxication
Atonic Indigestion
Anemia
Catarrhal Conditions
Malnutrition
Nervous Ailments
General Debility

THE PURDUE FREDERICK CO., 135 Christopher St., New York

Chevy Chase Sanatorium

WASHINGTON, D. C.

A HIGH-GRADE institution for the care and treatment of those suffering from Nervous and Mental Diseases, Alcohol and Drug Addicts and general enfeeblement.

Located in the choicest suburb of the National Capital, surroundings ideal, buildings new, heated by steam, lighted by electricity, licensed by the District of Columbia, inspected and controlled by the Health Department of the City of Washington.

FOR TERMS, ADDRESS

DR. BENJAMIN RUSH LOGIE

Chevy Chase Sanatorium **WASHINGTON, D. C.**

"Whenever and wherever an efficient germicide, disinfectant, deodorant, sterilizer or detergent is needed."

By reason of its content of mercuric iodide, **Germicidal Soap** is many times as powerful as carbolic acid as a germ-killer.

Germicidal Soap is a valuable disinfectant in surgery, in gynecology, in obstetrics—hands, instruments and field of operation being quickly sterilized with one material.

Germicidal Soap is serviceable as a destroyer of infecting organisms in skin diseases—ringworm, acne, barber's itch, etc.

For cleansing wounds, bruises, cuts, scratches, abrasions, ulcers, etc., **Germicidal Soap** is of the utmost value—it *prevents* infection.

Germicidal Soap in solution provides an efficient vaginal douche. In addition to excelling as a detergent, douches so prepared are less irritating and less toxic than those containing mercuric chloride.

As a deodorant **Germicidal Soap** is widely serviceable. It effectually destroys the odor of perspiration. It also removes other odors from the hands and body—cigarette odors, stable odors, gasoline odors.

Germicidal Soap controls the itching of skin infections and such distressing conditions as *pruritus ani* and *pruritus vulvae.*

In the form of a stiff lather **Germicidal Soap** provides an excellent shampoo. It cleanses the hair and scalp. It removes dandruff, and *prevents* it by destroying the cause (generally attributed to a species of animal parasite).

Germicidal Soap is useful for washing and sterilizing bed-linen, handkerchiefs and napkins used in the sick-room; for cleansing cuspidors, bed-pans and other utensils.

Germicidal Soap is serviceable whenever and wherever an efficient germicide, disinfectant, deodorant, sterilizer or detergent is needed.

TWO STRENGTHS.

Germicidal Soap, 2% (containing 2% of mercuric iodide)—large cakes, one in a carton.
Germicidal Soap, Mild, 1% (containing 1% of mercuric iodide)—large cakes, one in a carton; small cakes, five in a carton.

Home Offices and Laboratories,
Detroit, Michigan.

Parke, Davis & Co.

"The Salt Breath of the Sea Brings Health"

GALEN— And Cottages HALL

Hotel and Sanatorium

ATLANTIC CITY, N. J.

¶ Stone, Brick and Steel Buildings, with every modern comfort. Two Elevators and five Sun Parlors.

¶ Convalescents can have specially prepared diets and other helps, and be under control and advice of home physician through our resident.

¶ Our Treatment Department includes Electric and Hydriatic Appliances of the latest style, with Sea Water. Trained operators only.

F. L. YOUNG, General Manager

So many cases of

Pruritus, Chafings, and Irritations

are relieved by applying

K-Y Lubricating Jelly

that we feel we owe it to our patrons to direct their attention to the usefulness of this product as a local application, *as well as* for surgical lubrication.

No claim is made that K-Y Lubricating Jelly will act with equal efficiency in every case; but you will secure such excellent results in the majority of instances that we believe you will continue its use as a matter of course.

NO GREASE TO SOIL THE CLOTHING!

Collapsible tubes, 25c. Samples on request.

VAN HORN AND SAWTELL
15-17 East 40th Street, New York City

Hand Disinfection

can be easily an conveniently accomplished by th use of

SYNOL SOAP

This efficient liquid soap en ables the physician and surgeon t cleanse and disinfect the hand with gratifying freedom from th irritating effects of caustic soap and antiseptics. It is particularl serviceable to those who have t cleanse the hands many times eac day. Invaluable in the office, op erating room and sick chamber.

ANTISEPTIC—
CLEANSING—
DEODORANT

Johnson & Johnson

New Brunswick, N. J. **U. S. A.**

FLEET-McGINLEY CO., PRINTERS,
BALTIMORE, MD.